

# ROCKS and MINERALS

PUBLISHED  
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Edited and Published by  
PETER ZODAC

November-December  
1950

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## Merry Christmas and a Happy New Year

Christmas comes near the end of a year perhaps as a reminder that someday our sojourn on earth will also end.

As we march down through the corridor of time, we should pray fervently and unceasingly to Almighty God that He may guide us over the long and narrow path which leads to His Sacred Heart—the gateway to Heaven where eternity is one beautiful, joyful Christmas.

## TRIBUTE TO THE EDITOR

Editor's Note: The last issue of **ROCKS AND MINERALS** was rushed (it came out 10 days earlier than usual) so that the announcement of a great field trip in Nevada would reach our readers long before the big event took place (See Sept-Oct, 1950, **R & M**, p. 464). **ROCKS AND MINERALS** tries its best to co-operate with clubs and societies and it is most gratifying if our cooperation is appreciated. The following letter speaks for itself.

Dear Mr. Zodac:

We, the undersigned, being all of the officers of the Clark County Gem Collectors, Inc., most sincerely wish to convey to you our appreciation and gratitude for the wonderful cooperation you and your fine publication, **ROCKS AND MINERALS**, gave to the announcement of the Club's giant field trip.

This was probably the largest gathering of its kind ever held, and we wish you to have a feeling of pride along with us that you had so much to do with making it an outstanding success.

Please believe that you have our heartfelt thanks and good wishes.

For such of your readers who might

wish to hunt this field in the future, directions are as follows:

The new gem field is located about one mile south of U. S. Highway 93. Proceeding southeastward on this highway from Hoover Dam the Park Service has erected mile posts. At a point which would represent on this mile post system the equivalent of 2.75 miles, a desert road will be discovered at the end of a road fill protection fence, which road leads toward the Colorado River. This road can be followed in for approximately one-third mile to a parking area.

From this area a saddle in the hills is readily seen, and when one attains the top of the saddle, Flower Agate Hill is framed in its entirety about one-quarter mile distant. Both sides of the mountain contain numerous veins of the material, all traces of float having disappeared at the first field trip.

W. M. Brown, President

Cortez T. Cooper .....	Vice-Pres.
Annette J. Drury .....	Sec.-Treas.
Paul Mercer .....	Director
Paul Drury .....	Director

## REPRINTS AVAILABLE

There have been so many requests for reprints that the following bit of information may be of value. They can be supplied and at the following rates:

100 copies	2 pages	\$ 3.75
100 copies	4 pages	7.25

100 copies	6 pages	\$10.25
100 copies	8 pages	12.75
100 copies	10 pages	15.00

All reprints must be ordered in advance, before the articles make their appearance in print.

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Edited and Published by  
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November-December  
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## THE MINERALS OF THE CHAMPION, MICHIGAN, AREA

By JOSEPH A. MANDARINO

1034 North Keystone Avenue, Chicago 51, Illinois

### Introduction

During the months of July, August and September of 1949, the writer was employed by the Michigan College of Mining and Technology as a member of a geological field party. The purpose of this party was to conduct a radiometric and geologic survey of an area north of Champion, Michigan. As no work was done on Sundays, the writer took advantage of collecting at the numerous mine dumps in the vicinity of Champion.

It is hoped that the following information will be of interest to those who are contemplating a Northern Michigan trip.

### The Beacon Mine Dumps, Beacon, Michigan

The Beacon Mine, operated by the North Range Mining Company, is the only active mine in the Champion area. The numerous dumps and ruins in the vicinity of the Beacon Mine, however, attest to the former activity in the area.

### Location

The town of Beacon is located in Section 31, T48N, R29W, slightly west of Champion, Michigan (Figure 1.). The Beacon Mine and its accompanying dumps are located in an area just west and south of the Beacon Post Office.

### Minerals

The following minerals were found on the Beacon dumps. The list includes only those minerals which can be seen without recourse to a microscope.

**PYRITE**—Pyrite is fairly common on the dumps. Most of the specimens seen were badly oxidized to an iron oxide and were extremely fragile. With careful trimming, however, good crystals were obtained. The crystals are cubes, some of which are slightly modified by dodecahedrons. The pyrite is associated with quartz, tourmaline, chlorite, hematite, and garnet.

**QUARTZ**—Quartz is present as veins and masses in various rocks on the dumps.

The only euhedral crystals found (outside of a few drusy coatings) were some clear to milky crystals associated with siderite in a vein. The crystals project from both sides of the vein towards the center. The massive quartz is of the milky variety, although some has been colored a pleasing iridescent yellow by the oxidation products of the pyrite. One specimen of rose-colored quartz was found.

Collectors visiting these dumps should carefully examine all the quartz they see as it is with this mineral that the best crystals of tourmaline, chlorite, and garnet are found.

**SIDERITE**—This mineral is present as crystals in crevices and cracks in various types of rocks, and as cleavage plates and masses in quartz. The crystals are cream-colored rhombohedrons and are from one to four millimeters in size. Some of the masses exhibit the reddish-brown, sub-metallic oxidation coating so common to the siderite from many New England localities.

**GYPSUM**—Only one occurrence of this mineral was noted, but perhaps further search will yield more. The gypsum was found as a coating (one-half inch thick) on a slab of rock. The mineral is reddish-orange in color and has a platy appearance.

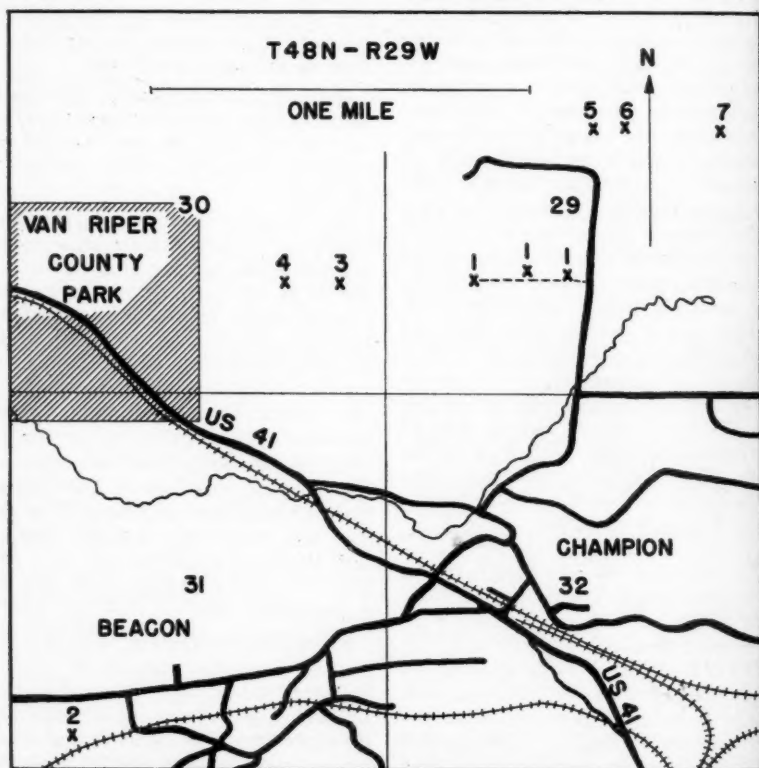
**HEMATITE**—The ore from the Beacon Mine consists entirely of specular hematite, and averages about 63% iron, although higher grades of 65-70% iron are encountered. Nice specimens of specular hematite in pure, black, micaceous masses are quite abundant on the dumps. Occasionally, specular hematite is found associated with quartz and/or pyrite. Several specimens consisting of pyrite with cavities lined with minute hematite crystals were found.

**MAGNETITE**—This mineral occurs both as euhedral crystals and as anhedral aggregates. The latter type is found in a quartzitic phase of the Iron Formation. The crystals, which are octahedrons, are associated with garnet, aphrosiderite, and "martite" in a chlorite schist.

**"MARTITE"**—"Martite" is a pseudomorph of hematite after magnetite. The mineral occurs in octahedrons and may be distinguished from magnetite by its reddish streak and non-magnetic nature. "Martite" is associated with aphrosiderite and magnetite.

**TOURMALINE**—Tourmaline, in the writer's opinion, is the most interesting mineral found on the dumps. The mineral occurs in long, slender, prismatic crystals, some of which are four inches long. The color varies from dark green, through brown, to black. The crystals occur in quartz masses in chlorite schist and occasionally in some of the other rocks. The best crystals found so far have been in the quartz, and are associated with pyrite, garnet, chlorite, and siderite.

**GARNET GROUP**—Garnet of two different types can be found. One type occurs as fresh, sharp, attractive crystals



Legend To Map

X—Mine or Pit

Names of Mines or Pits

- |                     |                      |
|---------------------|----------------------|
| 1. Phenix Pits      | 4. Marine Mine       |
| 2. Beacon Mine      | 5. North Phenix Mine |
| 3. Northampton Mine | 6. Pascoe Mine       |
|                     | 7. Hortense Mine     |



associated with quartz and chlorite. The other type is altered to aphrosiderite. The extent of alteration varies with the size of the crystals, the smaller crystals being more completely altered than the larger crystals. Although the altered garnets at Beacon are of good quality, the collector would do better to go to Michigamme (seven miles west of Champion) for really choice specimens.

**STAUROLITE**—Staurolite in long, slender, untwinned crystals are found in a schist which is quite abundant on the dumps.

**CHLORITE GROUP**—This group of minerals is represented by at least two different species: aphrosiderite and another which has not yet been definitely identified.

The aphrosiderite, as was noted before, is an alteration product of garnet.

The other chlorite mineral is present in rosette-like aggregates associated with quartz and unaltered garnet.

**APATITE**—One specimen of apatite was found. The apatite was present as long, hexagonal, prismatic crystals. The crystals are pink to yellow in color, and range in size from one-half inch to two inches in length.

The preceding list includes only those minerals which the writer found. The following minerals have been found by others: goethite, rhodochrosite, adularia, barite, molybdenite, marcasite, chalcophyllite, uraninite, sericite, grunerite, cummingtonite, chloritoid, clinocllore, muscovite, biotite, anhydrite, and bismuthinite.

#### The Phenix Pits

The Phenix Pits are only a few of the many old, abandoned pits north of Champion. These are the easiest pits to find as they are situated just west of a gravel road. An old path leads from this road to the pits and dumps. The pits are now waterfilled and are supposed to afford good bass fishing.

#### LOCATION

The Phenix Pits are located in the SW $\frac{1}{4}$  of Section 29, T48N, R29W. Other pits are situated west and northwest of the Phenix Pits (Figure 1.).

#### MINERALS:

The writer found the following minerals on the dumps of the Phenix Pits.

**CALCITE**—Calcite occurs in crude, pinkish scalenohedral crystals on goethite. The crystals are usually coated with white, secondary calcite. This combination of colors produces an attractive specimen for the mineral cabinet.

**SIDERITE**—Small, buff-colored rhombohedrons of siderite associated with goethite are fairly common on the dumps.

**HEMATITE**—Hematite is very scarce, but small specimens are occasionally found. Apatite is sometimes associated with the hematite.

**GOETHITE**—This mineral is found in stalactitic forms, sometimes with a beautiful iridescent surface. Goethite is by far the most abundant mineral on the dumps, and very choice specimens can be obtained.

**APATITE**—Apatite occurs as small, red, hexagonal plates in cavities in hematite. The crystals are very beautiful when examined with a hand lens, and should make good micromounts.

**QUARTZ**—Small smoky quartz crystals are quite commonly associated with the goethite.

#### Acknowledgements

The writer wishes to thank the following members of the Department of Geological Engineering of the Michigan College of Mining and Technology for the aid they gave him: Prof. Kiril Spiroff and Mr. J. H. Kerr for information which aided in writing this paper; and Dr. A. K. Snelgrove for editorial advice.

Thanks are also due to the Marquette County Road Commission who supplied a base map from which the map in this paper was, in part, prepared.

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3. ———, Personal interview.
4. Kerr, J. H., Personal interview.

## IRELAND—THE PREHISTORIC EL DORADO

By JOEL MARTIN HALPERN

All too often in discussions of the development and utilization of the world's mineral resources there is a lack of perspective from the long range point of view. For frequently the findings of history and especially archaeology are not taken into account. The phenomena of the exploitation of unrenowned natural wealth for the benefit of man are at best evanescent events in that continuous stream of happenings called human history. The fact that the desire for gold and its recognition as a standard of high value are as old as recorded history is rightfully taken for granted by the overwhelming majority; but few appreciate the significance of gold in the pre-historical period. We are all familiar with at least the bold outlines of the story of the exploitation of gold in California, Ontario, the Yukon, parts of Latin America, and South Africa, to name only the most prominent. These were relatively brief periods of feverish and speculative development in which all concerned tried to get the maximum profit, in the shortest time with a minimum of effort and risk.

The development of gold production in Ireland was of an entirely different type, for it lasted for a comparatively long period and it occurred at a time when Western European civilization was much cruder and simpler than today. Archaeologists have divided human pre-history into several stages, namely the Paleolithic (Old Stone Age), characterized by the use of crude chipped stone implements; the Neolithic (New Stone Age), identified with the invention of agriculture, and the domestication of plants and animals; and lastly the Era of Metals, subdivided into Copper, Bronze, and Iron Ages. Commencing with the Age of Iron we have the beginning of recorded history.

The period during which the development of the gold resources in Ireland occurred and consequently the one with which we will be most concerned was the Bronze Age. It is very difficult to give precise dates to these periods but

as an approximation we can say that this period had its beginning in the British Isles about 1,700 B.C. Shortly after this the region around the Wicklow Mountains in southern Ireland, near what is now Dublin, began to come into prominence. In the sands and gravel of the streams that drain these mountains the gold was obtained which when turned into useful and decorative articles by Irish smiths was exported over much of northern and western Europe. The assertion sometimes made that Ireland was the prehistoric El Dorado of the west is based largely on archaeological evidence so it is best to examine first this evidence in the form of artifacts and to see to what extent it substantiates the claim.

One of the most important factors in this regard is the concentration of tombs in the vicinity of Wicklow. This distribution, according to the famous British archaeologist, V. Gordon Childe, is explicable only on the basis that the concentration of population in this area must have been due to the presence of gold.

Scattered throughout Denmark, Sweden, Central Germany, Bavaria, Brittany, and Scotland have been found various gold ornaments and gold decorated implements that have been directly traced to Irish origin. The gold definitely came from Ireland, there is no doubt of that;



IRISH GOLD LUNULA

(C. F. C. Hawkes—Prehistoric Foundations of Europe to the Mycenaean Age.)

the smiths and miners who produced and exported these gold objects, however, most likely originally came to Ireland from the Iberian peninsula. Many of these ornaments show Iberian influence in their design and workmanship. A good example of this was the lunula, a crescent-shaped collar of sheet gold whose artistic inspiration is definitely traceable to continental origin.

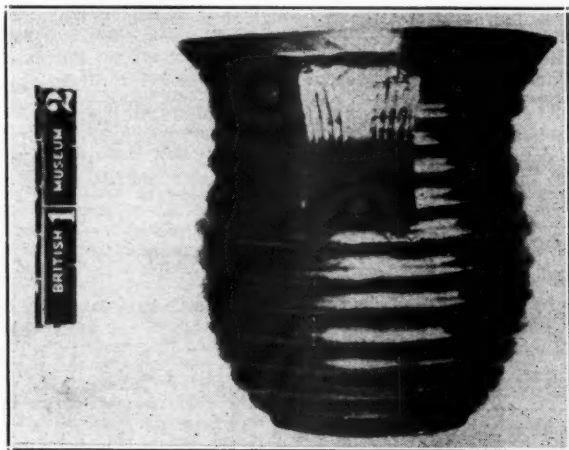
The earliest gold objects were made by beating out ingots of gold into thin sheets, cutting these up and decorating them by twisting or incising the surface. In the beginning these gold jewels were rather large and fairly solid; as time went on and the gold began to give out the jeweler contained less gold and became more hollow. To supply the demand for Irish gold regular trade routes were established, with amber, among other things, being obtained from the region around the Baltic Sea, while tin came from Cornwall. This development of creative work in gold was paralleled, contemporaneously only in Hungary and Siberia.

These Irish goldsmiths turned out a large variety of work. They produced

boxes overlaid with gold, conchal buttons, sceptre stones, daggers, all ornamented with gold, hilts were decorated with tiny gold nails in geometric patterns. Halberds and axes were also decorated with gold. As for jewelry, they produced earrings and the lunulae already mentioned. These lunulae have been found in northwest France, Wales, Belgium, Hanover-in-Germany, and Denmark besides Scotland and Cornwall in the British Isles.

During the late Bronze Age the Irish goldsmiths at last learned to use solder, which had been employed by Oriental jewelers since as early as the third millennium B.C. They also learned to use alloys of gold and silver, as well as of gold and copper.

In the 18th and 19th centuries there was some gold mining in this area. According to J. M. Maclaren even as early as 1765, Gerald Boate, in his "Natural History of Ireland" mentions the occurrence of alluvial gold in some areas. In 1795 the discovery of gold attracted wide attention and there was a rash of peasants to the area. The government soon took over but later abandoned the project,



**Gold Cup, Rillaton, Cornwall**

(British Museum)

which was later taken up by several commercial companies. The total output since 1795 has been about 8,000 oz. but the parent veins have never been located. The largest nugget, found in 1795, weighed 22 oz.

The streams in which the gold is found run through an area of lower Silurian grey, green and dark slates and sandy shales. There is a black sand associated with the gold and it is composed mainly of magnetite, ilmenite, hematite, iron pyrites, cassiterite, galena, wolfram, molybdenite, copper pyrites and oxides of manganese. The gold of these stream beds is generally in fine grains, assaying about 90% gold with 5-8% of silver with small amounts of iron and copper with silica sometimes present.

It is interesting to see how closely interrelated all the sciences are with discoveries in such widely separated fields as archaeology and mineralogy often having a direct effect on each other. Often by connecting and interrelating the discoveries and researches in two fields of learning results can be obtained which are beneficial to both branches of knowledge concerned.

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#### Wants Micro-Mount Articles!

Editor R & M:

The "Micro-Mounter" column has forced me to start a micro-mount collection. How about more articles in the micro-mount line?

Frank W. Smythe, M. D.  
Memphis, Tenn.

September 3, 1950

#### Glad to Hear It!

Editor R & M:

Am enclosing \$6.00 for a two year renewal of subscription. I do not want to miss a single issue!

Ada E. Smith  
Monterey, Calif.

October 12, 1950

#### Ward's Featured in Collier's

In the September 2, 1950, issue of COLIER'S appears a most interesting story about Ward's Natural Science Est., Inc., 3000 Ridge Road E., Rochester 9, N. Y.

The story was written by James Poling and is titled, "What do you collect—Butterflies or Hippo Skulls?" It deals with Ward's various departments of natural history but the feature of special interest to our readers is the section devoted to mineralogy. A very fine picture, in color, of our friend, David Jensen, appears on page 29 and captioned, "David Jensen, chief mineralogist, at a rock-covered desk. When a laboratory ordered a specimen of a rare mineral he located it after a search through three continents."

Five pictures, 3 in color, illustrate this most interesting article which appears on pages 28, 29 and 55. A good picture of Dr. Dean L. Gamble, president of Ward's Natural Science Est., shown inspecting a mastodon leg bone in the hayloft of the company barn, appears on page 28.

All friends of Ward's should try to obtain a copy of this issue for their files. If your newsstand is out of them, you might get a copy from the publishers, Crowell-Collier Publishing Co., Springfield, Ohio. (Current copies are 15c each but back copies might be more).

#### Publicity Appreciated

Editor R & M:

May I take this opportunity to thank you for the grand publicity you so generously gave the Los Angeles Lapidary Society this past year. We realize that compiling a journal of such fine quality as the ROCKS AND MINERALS is a big job and are especially grateful for your splendid support.

On July 10, 1950, the following newly elected officers were installed: Mr. Norman Cupp, President; Mr. Ham Hamilton, 1st Vice President; Mr. Ben Beery, Second Vice President. Miss Marguerite Wilson, Secretary and Mrs. Claire Schroeder, Treasurer. As in the past the retiring president becomes corresponding secretary in charge of publicity. It is my earnest desire to comply with the requirements of your publication in the hope that we may send you material sufficiently interesting to be worthy of space in ROCKS AND MINERALS.

I should be pleased to learn from you the set-up most likely to be published by your staff, your deadline and any suggestions that you might give me that would assist in accomplishing this purpose.

I am looking forward to this assignment with anticipation and any comments or criticisms you make will be heartily appreciated.

Vic Gunderson,  
Corresponding Secretary-Publicity Chm.  
Los Angeles Lapidary Society  
Los Angeles, Calif.

September 14, 1950

## ST. BARBARA AND THE MINERS—A MEMOIR OF BRAZIL

By MARGARET D. BENSUSAN, F.R.G.S.

The Folklore Society

8615 Columbus Avenue, Sepulveda, California

Workmen leaving Brazil's Passagem gold mine were searched at the gates. The object of this inspection was not to recover precious metal but pilfered dynamite. Throughout the year the mine sustained losses of this imported necessity, but most of all at the approach of December 4th, Santa Barbara's Day.

The Latin custom of celebrating saint's days with fireworks takes on special importance at the fete of St. Barbara. For she is regarded as the patron and protectress of those who work with explosives, especially makers of fireworks and miners.

As often as not, both pursuits are followed by one and the same person in up-country Minas Geraes, cradle of Brazil's mining industry. The majority of the population there get what they earn from the subsoil, growing or gathering the rest of their needs from the surface. Saint's day festivities provide these people with their much loved fun and recreation, and create a continuous demand for fireworks. So, with manufacturing largely in the homespun stage of development, every man, from boyhood, has learned how to make his own rockets. Hence the miner's two-fold zest for Santa Barbara's Day.

The miners at Passagem had no other means of getting explosives for this purpose except bilking the company supplies. The Brazilian government allowed the mine operators to import dynamite duty free, provided it was used for mine purposes only, and not sold or given away. According to the law of the land, no one could be prosecuted for stealing anything valued at less than one milreis (1000 reis, or, at the time described, about 50 cents). Dynamite was worth 900 reis, so it was purloined a stick at a time. Gate tenders, making their routine search of outgoing employees proved near-sighted in recognizing the wanted article. A favorite place of concealment was the lunch box, in which many a stick of

nitroglycerin passed inspection sketchily disguised in banana peelings.

Thanks to these neat and simple means of accommodation, rockets were never lacking for the festivals, and the folklore of mining lost nothing. The rockets were made by attaching a short length of bamboo to a stick. Dynamite was stuffed into the hollow bamboo, together with a fuse of paper and string. Scraps of gay tissue and foil, feathers, and even posies sometimes decked the missiles.

At hardrock mines such as Passagem, there was no holiday like Santa Barbara's Day. Work was suspended and everybody joined the celebration. In Passagem's heyday, the quarter of a century during which it was managed by Arthur J. Bensusan, the program of this prime occasion never varied. At dawn the miners gathered on the lawn of the Casa Grande, the manager's home. The mine band sounded reveille, while rockets zoomed and ripped the morning mists, to summon the "Senior Director." That dignitary came out in his bathrobe and addressed the debonair and lovable throng according to a set pattern: The mine had done well . . . The miners had worked well . . . All did credit to a glorious country . . . As usual, there had been hardly any accidents . . . Santa Barbara had looked after them well.

The miners went home to return later with large bouquets of handmade paper flowers for Dr. and Mrs. Bensusan. The latter, with their four children and the English members of the mine staff, marched with the miners down the hill about a mile to mass at the village church. White clothing was the order of the day, and with 1500 mine hands and their families swelling the procession, it was something to see in the quiet Brazilian back country.

For the work people the rest of the day was given over to roast pig, raw white rum, a double-quick twostep called the maxixe, and lots and lots of rockets. Small boys gleefully retrieved the fallen

sticks and helped their elders produce yet more of the gala projectiles. Used to handling fireworks all their lives, these folk are adept at the dangerous pastime. I have never heard of an injury from these homemade pyrotechnics.

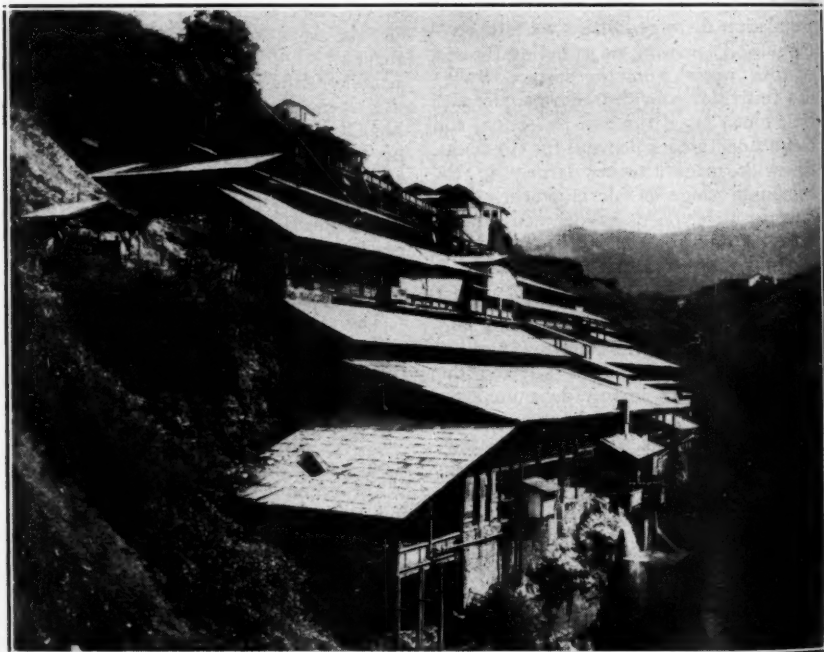
The manager, staff, and their families trudged back up the long grade to the mine clubhouse, where the noontide heat of summer under Capricorn drove them to the cool delights of swimming pool and soda pop.

Since the period just described, Passagem Mine, then the property of a British company, was bought by a wealthy Brazilian family, who make a leisurely profit from smaller scale operations, regarding it somewhat more like a hobby. But Passagem still remains Brazil's second gold mine in size and importance. First opened before 1810, it is the oldest continuously running-gold mine in the Americas. It is situated in the pass (passagem)

on the road between the famous colonial towns of Ouro Preto and Mariana, a distance of about 8 miles, with a thousand foot climb.

The formations of this region, thought to be about 557 million years old, are among the richest in the world. Through the 18th century the entire kingdom of Portugal and her colonies, including Brazil, lived off the mineral wealth of this and adjacent areas. A growing number of our North American mineral collectors now visits this fabulous region, where they find that the pulses of time seem to have skipped many a beat. Indeed, there has been remarkably little change in customs and conditions since the miners first began skimming off the easy cream of Minas' treasures over 250 years ago. But neither has there been any change in the vast mineral potentialities.

For 80 years the Morro Velho, a truly modern gold mine, probing a mile and



The mills of the Passagem Gold Mines near Ouro Preto, Brazil.





The Twelve Apostles carved in steatite on the portico of a church in Minas Beraes, Brazil. The facade and many interior carvings are of the same local mineral. . . . .

a half below the surface, has yielded handsome returns, while in almost any stream prospectors may still pan out an easy enough living. Full scale modernization will come to Minas Geraes when time and the circumstances ripen. Meanwhile the traveler with an eye for local history, nature, and folkways has a wonderful time.

In 1704 Antonio Bueno, one of the earliest prospectors of Ouro Preto, ventured due north about 50 miles and found a new creek laden with riches. As this happened on the 4th of December, he named it Santa Barbara's River. A town founded on its banks was called after Bueno's personal name-saint, *Santo Antonio do Ribeirao (river) de Santa Barbara*, later shorn to *Santa Barbara*, as it is known to this day. There, too, the surrounding country is pockmarked with gold diggings, and the river bed is ridged with sluiceways. The Sao Bento gold mine, of Canadian ownership, is nearby. In 1944, while driving a tunnel in the neighborhood of Santa Barbara for the

Electric Bond and Share Company's power plant, workmen found 14 pounds or more of gold nuggets.

The other minerals of Santa Barbara district include graphite, iron, manganese, amphibole asbestos, green talc, steatite, and mottled mauve-sage agalmatolite. From the last two the notable statuary and other art works of Brazil's churches are carved.

From this area came the rare phenakite crystals on blue amazonite, in the Bensusan collection, which many touring rockhounds have visited our home to see. Anyone interested is always welcome to view this private collection of Minas Geraes mineral specimens, crystals, and gems, the product of over 40 years collecting on the spot. It gives, better than any list, an idea of what can be found in the minelands where St. Barbara holds sway.

Note: Minas Geraes is pronounced Mee'nas Jair eyes', with the j like the z in *azhve*.

## GEODE HUNTING LED TO AIRPLANE PHOTOGRAPHY

By FRANK BECKWITH

Delta, Utah

It's a queer combination that deer hunters, prowling the cedars have an eye that takes in cut terraces on the hills made by the waves of ancient Lake Bonneville in one glance distantly, and a closer view finds the locations of geode deposits in the hills—and then untrammelled, lead to air plane trips over the region.

But it is so. John Kozina likes to line up a buck in the rifle sights. But his eye studies the ground for tracks, and finds geodes. And what else he can't see isn't worth mentioning.

Marion Killpack also hunts deer, with this difference—he has a complete lapidary outfit, grinds and polishes, and when he isn't busy hunting deer in season, he roams the hills for rocks, geodes, agates, anything in fact, and after working on them, puts each fine specimen on exhibit.

Emory John, retired, is a fossil and rock hunter, whose hobby in this territory dates back fifty-one years; he has the largest collection in the county, sorted, labeled, and well studied.

Leo Burraston, airplane pilot, tangles with the bucks afoot, and finds his quarry on the Simpson Mountains.

The writer, a pencil pusher, out on the look for anything of interest to scribble about.

There you have the personnel for what follows.

Kozina took us to Keg Mountain. (Locally we call it that, though on the map it is officially McDowell Mountain.) On the south side he found us some geodes, but rather poor in quality. Then the next year he took us to the east side; the conversation was about as follows: "I took up a wash—yes, I think this is it. If it is, there will be a head and horns by the side of the road—there is it—this is the right place—now for the geodes." By very little walking we each got all the geodes we wanted, small, solid ones, larger broken ones—but literally hundreds. But the quality was

rather poor. So Keg Mountain had plenty.

Close to Keg, Emory said "There's 'deadman's road.'" "Why the name?" we chirped in. "That's where the hard rock miner from Eureka lost his life, coming back by auto from Joy to Tintic." And we all recalled the tragic event from memory.

As we were on the east side of Keg, Kozina said, "Frank, climb up and take a look-see. Some fine landmarks, and directly across eight water terraces of Lake Bonneville—a whopper."

I climbed to a high point; Reservoir Butte nearly north ahead; about three miles closer Cup Butte by the side of the lower road; and directly east the famous Snowplow, depicted in glowing terms by Gilbert, with sketches and text.

Later in talking to Leo Burraston, air pilot for a flying service, he said, "I have hunted deer on the Simpson Mountains, and have seen those buttes and that fine showing of terraces on what you call the Snowplow; think they'd made a dandy photo from the air, Frank. What say?" "You're on. Lets."

So in April '49, I took the first flight over the old river bed, and made many shots from the plane; then followed it with another trip in June, filling in. The plane was light and the air calm, so we got low and close, which one would not dare to do with the big, heavy planes, cruising far aloft by necessity.

We circled Cup Butte in all, five times, some close some more distant, studying the best angles for photos for shadows and contrast. The general direction of the wind in Lake Bonneville times was from the southerly area; the waves almost fully truncated the cone of the butte, but the hard (quartzite) rocks on the east rim resisted wave action, and that barrier turned the water into a churning, swirling mass which began to undercut, and in time the saucer-like depression (the cup) was gouged out; all the light, loose matter was carried away and dumped over the sides; and gradually the depression was

worn forty feet deep.

Then we flew farther, to Reservoir Butte, on the old Pony Express Trail. We circled that in all seven times, shooting at all angles, and for all details. The most striking photograph is reproduced here. In one view five water terraces were in the camera field; in another two on the west side; the two reservoirs which give the butte its name were taken, both close-ups and more distantly. One view shows the "Submerged Mountains" quite plainly; another shows the distant Dugway Mts. on the West.

These three objects, the Snowplow, Cup Butte and Reservoir Butte record pages in history exceptionally plain, fixing the highest water level by terrace, the "intermedite" levels; then the wider

and longer Provo level—pages easy to read. Scientifically they comprise a study eagerly sought by geologists and also by the layman, should he be interested in the distant past.

Back to the subject of geodes, locally we make no technical discrimination between the fully filled "concretion" or the shell, with cavity more or less filled of the proper "geodes," but indiscriminately call all a geode. In my cases I have a large geode, rough on the outside, with many rounded protuberances, shell inside whitish, and about 5/8ths inch thick; and the hollow space with a fairly good crystal in the bottom. In my office one day a man picked it up, and said: "Why that's a petrified cocoanut. It shows the rough husk, and the layer of 'meat' inside; and



Reservoir Butte looking north and slightly east.

View shows South and East Reservoirs on Bonneville level.

Far distant white streaks are Great Salt Lake desert, which merges on right (hidden) with Great Salt Lake.

"Submerged mountains" in right middle distance.

Note sharpness of top—quartzite.

all that space once filled with 'milk!' " Say, that's a dandy. Proves we had a tropical climate once, with palm trees a-growin' where now are cedars. You can see the bud sticking up through the bottom that fed it. Best petrified cocoanut I ever saw!"

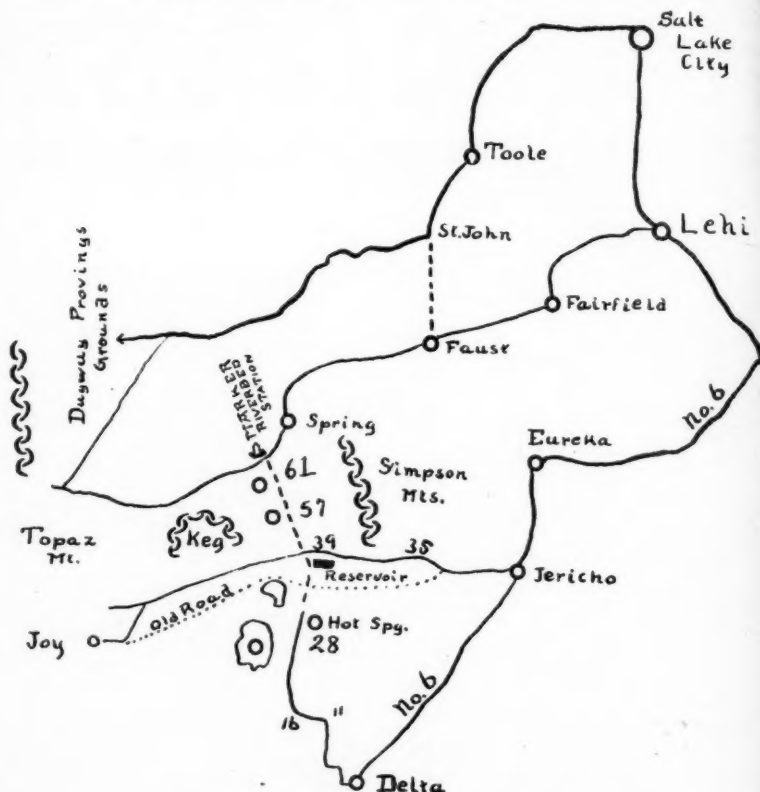
So 'petrified cocoanut' it is, and don't any of you readers of *Rocks and Minerals* shake a doubting head.

And as to thunder eggs, we who live on the desert know the danger of flash cloud bursts, when gullies roar; when you

sit in the car drenched or dry and wait for the storm to play out.

So, when any of us experienced men find a thunder egg we immediately grab it, tote it home, and relieve the pressure of the pent up gases by the saw; because if we didn't, that egg would spoil in the hot desert sun and like all bad eggs explode, bringing a deluge of water from the skies. So we pick up all danger to later trips, 'n cut 'em open.

Jasper close to Topaz Mountain (west of where I am writing about); also a



The small stockmen's reservoir (at 39 from Delta) is the first point to go to from either Jericho or from Delta. It is 39 miles from Delta, NW, and 35 miles W from Jericho. Cup Butte at 57 from Delta; Reservoir Butte at 61.

If coming from St. John, or from Lehi-Fairfield-Faust, stop at Riverbed Station marker on the Pony Express Trail, and Reservoir is at your hand. Down that road about  $3\frac{1}{2}$  miles south is Cup Butte. Geodes on Keg and Dugway. Many enticing rocks on the older formations. Fluorspar NW of Topaz Mt.



**Cup Butte, Utah. View looking northeast.**

poor quality of garnet. Very rare a staurolite. Topazes, of course, but now getting less, as persistent hunters have prowled that area yearly, and depleted finds. Now a task of drill and dynamite; then wine-colored ones, and clusters!

Dandy pickin'.

Agate, chalcedony, petrified wood; fluorspar mines; manganese of iron at Joy.

Accessibility?—One can go from Tooele toward the Dugway Proving Grounds, and turn south over a vile road to meet the old Pony Express Trail. Or, if one likes the thrill of traversing today by auto a trail once ridden by riders on cayuses, galloping with mail bags slung over the saddle horn, he can leave Lehi-go to Fairfield, Faust, Simpson Springs, and stop at Riverbed Station, where the marker is erected. Then Reservoir Butte is directly at hand, rising sharp and immense. Cup Butte by the side of the road, inviting a climb, three and a half miles south, on a fair country road. Geodes southwest in Keg.

Or, one can take Highway 6 to Jericho; turn west, and at 35 miles stop at the tiny

reservoir; take the north road (starting somewhat dimly) and Snowplow is met first, then Cup Butte, and Reservoir Butte at the end of the left hand (west) mountains.

From Delta, about 57 miles to Cup Butte and 61 to Reservoir Butte. Road as mapped; greasy after a rain. On any of these desert roads, carry extra gas, and plenty of water. Be prudent, and drive slowly—that will permit driving back—otherwise you may 'hoof it.' And we're a little bit slow in burying our dead.

Hope you find geodes, thunder eggs, topazes, and all the rocks, agatized or banded that you want. They will cut and polish well. Success to you.

#### **Watch Out for Your Nose!**

Editor R & M:

I was pleased to receive your letter and glad that you liked the sample of Singing Sands from Manchester, Mass. I can assure you that your mentioning it in the magazine will be more than a fair exchange for the sand. I shall be so terribly flattered that I shall carry a copy of *ROCKS AND MINERALS* around me all the time to wave under everyone's nose.

Patricia Ann Berry  
East Lynn, Mass.

## LUCKY STONES

By RUTH H. WENTWORTH

135 Maine Ave., Portland, Maine

Are you superstitious? Do you avoid going under ladders? Do you knock on wood? If you carry lucky pieces in your pockets, as some do, Ike Skillin of Freeport, Maine, makes unique ones.

About 30 years ago, Mr. Skillin went to Eagle Island in Casco Bay, Maine, on an errand. While there, the tide ebbed, leaving the boat stranded. Knowing that a long wait was in store, he explored the beach for minerals. He tossed a smooth black pebble into the boat, which excited his curiosity. What was it, and could he do anything with it

Mr. Skillin was a charter member of the Main Mineralogical and Geological Society and with such men as the late Herbert Haven, Dr. Richard Lougee of Clark University, and Com. Donald B. McMillan, had hunted for minerals until he had a wonderful collection. But never until he found this smooth black igneous pebble streaked with yellow, did he think of sawing, grinding, and polishing.

But why not try to saw this pebble? No harm would be done. So he rigged up a flat disk on an arbor, held the pebble on it, and low and behold, it became two halves! But the gears went too slowly to throw enough water on the disk; so that the sawing caused a high-pitched squeal. All of the girls in the box factory, located in the same building, threatened to move out.

So Ike developed a good mud saw, see **ROCKS AND MINERALS**, September, 1947. From then on, he was a lapidary. He made a one-piece grinding outfit and a one-piece polishing machine. His grinding wheels are all on one bench, with pails of water connected by pipes to the wheels, and with faucets to control the water. The polishing wheels are of wood, mounted on a one-inch shaft, four feet long. There are six wheels, 2 inches wide, covered with durite sanding cloth, underneath which are cloth felt and sponge rubber to prevent shocks and gouges. The sanding-cloth sizes are 120, 220, 320, 400 and 620, and a worn cloth for polish-

ing. He also has a vertical 18 inch lap for polishing large flats.

All of this equipment came gradually and with it, skill. First, he made many cabochons. Then, he made other things. Among these, are crystal balls of rose quartz, spheres of tiger eye and various porphyries, bracelets of Wyoming jade, paper weights and ash trays of lepidolite, agate, petrified wood, graphic granite, etc. and two beautiful vases of lepidolite. He sawed tons of rock with his mud saw and probably polished nearly as much on his wheels.

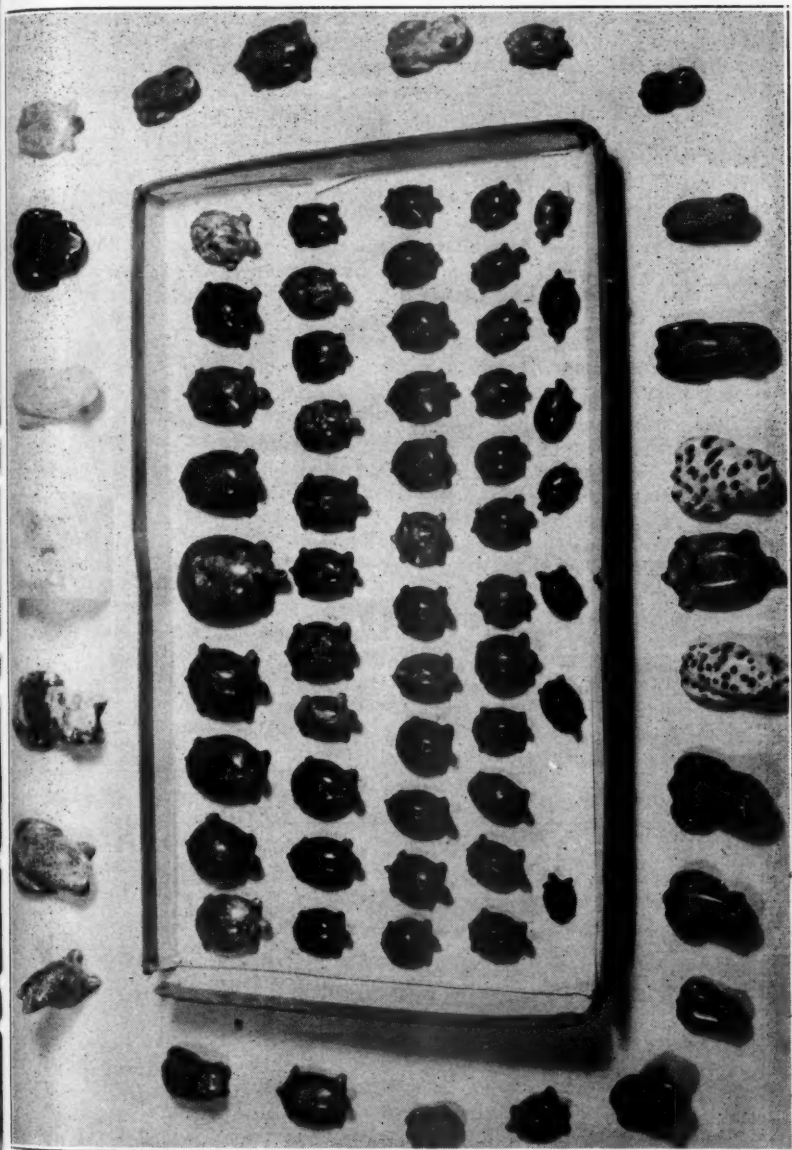
About this time, he had an inspiration. Why not make lucky pocket pieces? Some of the Orientals always carried charms in their pockets; to be consulted before answering business questions.

So, free-of-hand, and without consulting anyone, Mr. Skillin calmly ground out and polished a small turtle, from turritella agate. It took. People wanted them. He added frogs and toads to the list of lucky pieces. He now makes the turtles from jasper from Machiasport, Maine, which he previously obtained and had on hand. Some of the toads are made of toad-stone and some of the frogs of lepidolite.

Mr. Skillin's shop is an interesting place in which to hunt for odd things. Interspersed neatly between minerals may be found antiques of various periods. Hanging from the ceiling might be a flax wheel, some ancient lanterns, there on the shelf might be pine cones a foot long, old silver on old bureaus, a row of old bottles, beautiful dishes, an old sampler, nautilus shells, a stick candy paper weight, a Chippendale mirror or you might rest in a Boston rocker while deciding what to buy.

Among the beautiful museum sized minerals scattered here and there, is a group of quartz crystals from the French Alps. It measures 30" x 1 1/2" and has 1,100 perfect terminations, all water white. From Maine there is kyanite from Dundee Falls, calcite from Thomaston





Lucky Stones—some unique ones made by Ike Skillin, of Freeport, Maine.

one columbite specimen from Topsham weighing 28 pounds, and chain coral from Ripogenus Dam, one of the oldest corals found in this country. There are beautiful large fluorescent specimens and in a cabinet with smaller specimens he has his name spelled out in fluorite, wernerite and willemite, small chips being arranged in each letter so that the colors are variegated when the lamp is on.

But, if you visit there, you will find yourselves wandering back to the case with the "lucky stones." They are cleverly made. You almost expect a frog to jump over a turtle or a toad to swallow a fly. They are a challenge to all lapidaries, to make something equally unique. And above all, they drive away "evil spirits." To what better use could any rock or mineral be put?

## INVESTIGATION OF PLACER YIELDS PETRIFIED FOREST

By G. ELMO SHGUP

Box 756, Salmon, Idaho

While investigating the Richardson placers at Leesburg, Lemhi County, Idaho, for valuable monazite sand, a new discovery of petrified wood was made recently. This material lays 3 feet below the old clay bedrock top and the trees seem to stand up in place with the limbs intact shooting through the bedrock in all directions. Investigation showed the find to be about or at least 40 feet in length by 60 feet in width.

Photo No. 1 shows the old placer in which the petrified trees were found. Photo No. 2 shows the trees removed but laid near the spot from which they were dug out.

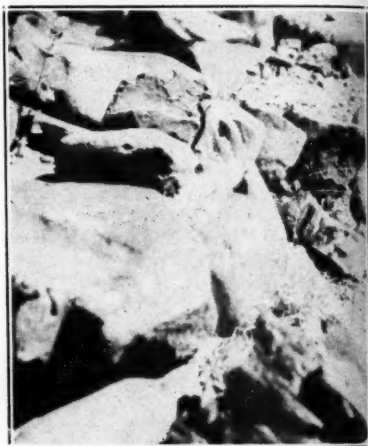


Photo No. 2

Photo No. 1



## AN OCCURRENCE OF BABINGTONITE IN LOUDON CO., VIRGINIA

By PHILIP R. COSMINSKY

509 Timber Lane, Falls Church, Virginia

The Arlington Trap Rock Quarry on Goose Creek and the Washington and Old Dominion R. R., Loudon Co., Va., has long been a favorite spot for collectors in the Washington, D. C., area. Many very fine specimens of apophyllite, datolite, prehnite, calcite, stilbite and other zeolites have been obtained there.

One of the most unusual minerals found there are greenish-black bladed crystals, some up to eight inches in length, which make up a large portion of the diabase in several dykes in the quarry. These were long thought to be augite, but were recently proved to be the much rarer pyroxene, pigeonite.

This locality was mentioned in an article by James H. Benn on the zeolites in the vicinity of the District of Columbia, R & M, May, 1944. It was also the basis of a remarkable paper by Earl V. Shannon, "TRIASSIC DIABASE INTRUSION AT GOOSE CREEK, LOUDON CO., VA.," Proceedings of the U. S. National Museum, Vol. 61, 1926. This paper covered the geology, petrography and mineralogy of this area in a most complete manner.

Shannon made mention of mirialitic cavities in a micro-pegmatite vein and described these cavities as containing fine micro xls. of epidote, titanite, magnetite, albite and druses of a white byssolitic amphibole.

In the spring of 1947 I made my first trip to this locality on a field trip with the Mineralogical Society of the District of Columbia. While doing a little exploring in a long unworked portion of the quarry, Sgt. Robert Hartmann, U.S.M.C., called my attention to several large fragments of this micro-pegmatite.

This rock was easily distinguished from the dark gray diabase and other rock in the quarry as it contained a large amount of pink microcline feldspar. These fragments contained many small cavities, each of which was well loaded with one or more of the above named minerals.

I was just becoming interested in micro-mounts so this was a find. I have traded considerable of this material and it has always been acclaimed as excellent. In subsequent trips to this quarry I have always brought home a supply to break up. In March of this year I got a fresh supply. While looking it over I found a small pocket of byssolite and some tiny, splendid black xls that were unlike any of the known xls in this rock. These xls were very clean and sharp and as several of them were wedge shaped I judged them to be triclinic. Several tiny fragments of broken xls were not attracted by the magnet, and a re-reading of Shannon's paper failed to turn up any clue as to what they might be.

After much labor, I managed to isolate a fragment of a xl that was large enough to see with the naked eye. Some time ago Dr. Charles Milton, geochemist with the U.S.G.S., had told me that any mineral large enough to be seen could be identified. I took the specimen and the fragment to him and he readily agreed that the xls were unlike any thing previously known from this locality. He agreed to try and identify them.

Some weeks later I received a letter from him in which he stated that the fragment had been x-rayed by Mr. Joseph Axelrod, U.S.G.S., and had been determined to be babingtonite. Dr. Milton also said, "I do not recall a previous find of babingtonite in Virginia."

Subsequent inquiries at the U. S. National Museum and research in the literature have failed to show a previous find of this mineral in Va. Some listed and known U. S. localities for babingtonite are Athol, Mass. (?), Gouverneur, N. Y. (1); Westfield, Mass., Woburn, Mass., Holyoke, Mass., and Paterson, N. J.

### References

1. Dana's System of Mineralogy, 6th ed., 1895, p. 381.
2. Two occurrences of babingtonite in Massachusetts, by John E. Kitson. ROCKS AND MINERALS, Aug., 1936, p. 124.

## MINERALS IN MEDICINE\*

A. J. DELARIO, M.D.

316 Broadway, Paterson, N. J.

Of the 97 known elements only about 15 are universally accepted as essential in both plant and animal life. These are the elements present in air, such as oxygen, nitrogen, hydrogen and carbon; the elements present in bone, calcium and phosphorus; the elements commonly found in the seas and also in blood plasma, such as sodium, potassium, chlorine and iodine; and the elements found in the blood cell, iron with traces of zinc and copper. Three other trace elements which are essential are boron, cobalt and manganese. These trace elements along with sulphur which is present in more than trace amounts are essential mainly in vitamin, enzyme and hormone formation. Sulphur is important in vitamin B formation; manganese is important in vitamin A and C, and in enzyme formation. It is an activator of many enzymes. Zinc is present in the enzyme carbonic anhydrase, in crystalline insulin and purified uricase. Boron and cobalt are important in reproduction.

These fifteen elements are present in the air we breathe, the water we drink, and the ground we live on. When any of them are deficient, they produce changes in our plants and animals and finally in us. We are thus a product of our environment. If cows eat grass which is low in calcium, the milk we drink won't have enough calcium to give us strong and long bones. If our land lacks iodine, the water and vegetables we eat will lack it also and we become very nervous and high strung individuals. If too much iodine is present, we become sedate, peaceful and easily satisfied. And so on, a volume could be written on this one subject alone.

In this paper I shall not discuss the importance of nitrogen in the protein

metabolism, or that of carbon in the carbohydrate metabolism or that of phosphorus in the fat and bone metabolism. I am more interested in the mineral metabolism of the body and the use of minerals as therapeutic measures, the value of minerals in the treatment of disease.

When taken into the body in an absorbable form most metallic elements and compounds, even in relatively small doses, are poisonous, some more poisonous than others. Fortunately most metallic compounds are unabsorbable. Since almost all precipitate proteins, they can be used as astringents in dilute solutions and in stronger solutions as destroyers of tissue. Almost all of these elements or compounds are relatively more destructive to low plant life, bacteria; and low animal life, such as organisms causing sleeping sickness, malaria, syphilis, etc., than to higher forms of animal life. Thus they are used for various internal and external infections.

I have listed in table form some elements and their compounds which are used in medicine. In the first column is the principal raw material source of the element, in the second, the main refined products produced therefrom, and in the third, the principal medicinal uses of the refined products. Whenever possible a brief history is given of the element and its compounds.

### Aluminum

Aluminum owes its name to the Romans, who called certain salts, now believed to be mixtures of aluminum and iron, alumen. These salts were found in the volcanic districts washed by the Mediterranean Sea. In 1460 John Di Castro, while on a trip to Turkey, learned the art of dipping cloth in a secret solution enabling it to hold various colors and dyes better and more brilliantly. He found that the secret solution was made from alum, which was extremely plentiful in the hills of Tolfa, a town near Rome. Alum soon became extensively used for art work and since the Church was the

\*This paper was presented before the North Jersey Mineralogical Society at the Paterson Museum, Paterson, N. J. in March, 1950. An exhibit was prepared with the help of the Paterson Museum Curator, William C. Casperson, in which were shown the raw material sources and the refined products of the elements and their compounds described.



Tholde thought the drug was dangerous. A great many others thought the same. The French author, Moliere, was against the use of antimony. He wrote a satire on antimony for two reasons: first, he had a grudge against doctors at that time because they could not cure his scrofula, and secondly, his son had died from the use of antimony. So many people died from the use of antimony, that the Paris Medical Society banned its use. It was used again about 100 years later

when Louis XIV contracted typhoid fever and after doctors failed to cure him, a quack gave him antimony and he apparently was cured by the drug. After this the ban was removed.

Napoleon, who was suffering from a stomach ailment, while on the Island of St. Helena, was given a salt of antimony (tartar emetic) and it made him so sick he thought the doctors were trying to poison him.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Native antimony	Antimony (Potassium tartrate) Tartar emetic	to induce vomiting anti-parasitic against Tropical infections 1. Granuloma inguinale 2. Leishmaniasis 3. Trypanosomiasis 4. 3rd Malaria 5. Trichinosis etc.
Stibnite (Antimony sulphide)		

#### Arsenic

Arsenic was known to the Chinese 3000 years B.C. It was known to the Greeks that arsenic gave a white color to copper. Arsenic was used as a cosmetic and for most ailments, but it was best known for its poisonous effects. The drug is white, has no taste and can easily be given in food. It has always been easy to buy, since arsenic has so many uses. It is used in rat and fly poisons. Lead, copper and calcium arsenates are used as insecticides and fungicides. Many cosmetics contain arsenic and it is used in the dyeing of fabrics and wallpapers. Very brilliant greens are obtained with the use of arsenic compounds.

In the past it was hard to prove that persons had been poisoned since embalming solutions contained arsenic. This is now prohibited by law in many countries.

Arsenic is not toxic to the same degree in all animals. The resistance is greatest in mice and then the hedge-hog, the rabbit, dog and cat. The mountaineers of Styria and other regions, who consume arsenic daily as a general stimulant and tonic, have become accustomed to doses of arsenic which would kill the ordinary individual. This tolerance has also been built up in dogs and rabbits.

So many died of arsenic, antimony and mercury poisoning in ancient times that antidotes were taken prophylactically. One of these was known as theriac and contained 37 ingredients among which was viper flesh. Later sulphur and molasses took its place and is still in use as a tonic. The Bezoar stone (concretion found in the intestinal tract or gall bladder) was another very expensive antidote at that time.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Native arsenic Realgar (Arsenic bisulphide)	Inorganic arsenic Arsenic trioxide (Fowler's solution) Lead arsenate	for anemia insecticide and fungicide



Orpiment (Arsenic trisulphide)	Copper Arsenate Organic arsenic Arsphenamines	insecticide and fungicide
Arsenopyrite (Iron arsenic sulphide)		destroys spirochetes
		1. Syphilis
		2. Yaws
		3. Vincent's angina
	Tryparsamide	Sleeping sickness
	Carbonsone	Trichomoniasis, 3rd stage of Syphilis

**Barium**

Barium takes its name from the Greek, Barus (heavy). All barium salts are heavy. Barium was first investigated by Casciorolus, a shoemaker of Bologna, Italy, in 1602. He found that after ignition with combustible materials, barium became phosphorescent. Barium was thus called Bolognian phosphorus. Its true nature was discovered by Scheele.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Barite (Barium sulphate)	Barium chloride (putty) Barium sulphate	purgative for horses  for x-ray pictures of the gastro-intestinal tract

**Bismuth**

Bismuth was known to the Greeks and Romans. In 1450 A.D., Basil Valentine referred to it by the name "wismut." Paracelsus referred to it as "wissat." Georgius Agricola latinized it to bismuthium.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Native bismuth	Bismuth	for gastro-intestinal
Bismuthinite (Bismuth sulphide)	subcarbonate	diseases, coats walls of ulcers, etc.
	Bismuth subsalicylate	for Syphilis, Vincent's Angine rheumatoid arthritis warts

**Boron**

Boron, a non-metallic element, was isolated by Thenard in 1808.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Borax (Sodium borate)	Boric acid powder .....	—soothes mucous membranes, eye, etc.
Colemanite (Calcium borate)		—mild antiseptic of the skin
	Boric acid ointment 5-10% ....	—same as above
	Borax .....	—same as above

**Calcium**

Calcium comes from the Latin word calx (chalk). The ancients did not use it much as a medicine. They thought lime was an elementary earth until 1808 when

Davy proved it to be an oxide of calcium. About  $\frac{1}{2}$  to 1 gram of calcium is needed by the body daily.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Calcite (Calcium carbonate)	Calcium carbonate .....	—antacid in stomach disease
	Calcium hydroxide ....	—lime water for children
Gypsum (Calcium sulphate)	Calcium phosphate .....	—bone diseases, rickets, etc.
	Calcium chloride .....	—antispasmodic
Bone ash (Calcium phosphate)	Calcium gluconate .....	—for cramps
	Calcium lactate .....	—for colic
		—for asthma, hay fever
	Calcium sulphate .....	—is plaster of Paris

**Carbon**

Carbon forms over 300,000 compounds. Most of the carbon compounds come from coal which was laid down

during the Carboniferous age, 53,000,000 years ago.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Mineral carbon Coal	Colloidal carbon	Absorptive properties against gases, against poisons
Animal carbon Bones	Animal charcoal (Bones heated in absence of oxygen)	1. Gas indigestion
		2. Gas fermentation
Vegetable carbon	Vegetable charcoal (Wood heated in the absence of oxygen)	3. Mercuric chloride, strychnine, phenol, oxalic acid and mushroom poisoning
	Activated charcoal	

**Chromium**

The name chromium comes from the Greek word, chroma (color) from the color of the chromium compounds. Up to about 1798, only lead was thought to exist in crocoite (lead chromate), first discovered by Lehmann in 1762. In 1798 Vauquelin and Klaproth found chromium

in crocoite. The green color of emerald, serpentine, chrome-mica and chrome-garnet is due to the presence of chromium, as is also the red color of ruby and some sapphires and spinels. Metallic chromium is used industrially in the manufacture of steel.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Chromite (Iron chromate)	Chromium dioxide .....	—differential microscopic staining
Crocoite (Lead chromate)	Chromium trioxide ....	—staining
	Ammonium bichromate	—photography

**Cobalt**

The name "kobalt" meaning underground spirit, or goblin, was given to the cobalt arsenical ores by the Saxony miners in the early eighteenth century because although these ores resembled

silver and other metallic ores, on smelting they gave off nothing much except poisonous arsenical fumes. Later Brandt in 1733 obtained a pure sample of the metal.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Smaltite (Cobalt arsenide)	Cobalt .....	—anemia necessary for enzymes, vitamins and hormones
Cobaltite (Cobalt arsenic sulphide)	Radio-cobalt 60 .....	—used instead of radium

**Copper**

After silver and gold, copper attracted the attention of man. The metal was extensively used in almost every phase of life early in history. The Egyptians mixed it with tin to form the alloy, bronze. They used it for eye diseases as early as 1500 B.C. It was never used much as an internal medication because it caused vomiting when taken internally. The

Greeks and Romans used copper early. The Romans obtained their copper ore from the Island of Cyprus. They, thus, called the ore, cuprium or copper.

Copper is essential in blood formation. In some animals the red blood cells contain copper instead of iron to carry oxygen.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Native copper	Cupric sulphate .....	—emetic
Chalcopyrite (Copper iron sulphide)		—general disinfectant 1/2 to 1% 1. Swimming pools 2. Amebic dysentery (ene- ma)
Cuprite (Copper oxide)	Cupric citrate .....	—astringent antiseptic ophthalmic ointment
Malachite (Copper carbonate)		
Chrysocolla (Copper silicate)		

**Gold**

Gold was the first metal to attract the attention of man because of its bright yellow color. It is present in sea water to the extent of one grain to a ton of water. The amount of gold present in the oceans has been calculated to be 10 billion tons. Gold is the most malleable and ductile of all metals. One ounce of gold can be pounded into 750 sheets 3 x 3 inches square. It has thus been used extensively for all sorts of art work and decorations since the beginning of history.

Its therapeutic use is fascinating. It is associated with the healing of disease by royal touch. Clovis the Frank, in 496 A.D. cured some diseases by merely

touching the individual having the disease. The number of cures rose remarkably when a gold coin was placed in the hand of the patient. This practice became quite prevalent and lasted until 1775. Charles II touched 2000 individuals in 1654. While in exile in Holland, he continued his touch treatment and distribution of gold coins. On one occasion, six persons were trampled to death in their eagerness to be touched and to pocket the coin. I probably should not have mentioned this system of medicine. Probably in the next session of Congress a new bill might be introduced to take the place of that of Socialized Medicine.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Native gold	Colloidal gold .....	—arthritis
	Radioactive gold .....	—tumors

**Iodine**

Courtois discovered iodine in seaweed in 1812.

A lack of iodine brings on goiter. The bulging eyes and the enlargement of the

thyroid gland seen in goiter occurs not only in man but also in other animals in areas lacking iodine. Dogs, cats, horses, fishes, etc., will all have the same signs.

Main Source

Seaweed ash  
Marshite  
(Copper iodide)

Refined Product

Iodine .....  
(Water or alcohol  
solution of iodine)  
Potassium iodide

Principal Medicinal Use

—Antiseptic (bacteria, fungi)

1. antifungus  
(Actinomycosis)  
(Blastomycosis)
2. antispirechetic  
(Syphilis)
3. liquifies bronchial  
secretions  
(Asthma)
4. Hyperthyroidism

Radioactive iodine ..... Cancer of the Thyroid

**Iron**

The use of iron came after silver, copper and bronze. It was known to the early Chinese, the Assyrians and the Egyptians. The metal was probably discovered in the ashes when a big fire was built near some red-iron-containing rocks. The first iron furnaces which were built, heated mixtures of charcoal and iron ore for many hours. The other minerals in the ore mixed with the charcoal ash and formed a slag protecting the freshly reduced iron from further chemi-

cal action. The furnace was broken and the glowing ball of iron was hammered while white hot not only to get rid of the slag but to make the various iron forms.

Iron was used early in medicine for many reasons but mainly because when taken internally it did not produce vomiting nor poisoning. The ancients took iron because they thought it would make them strong as iron.

Main Source

Hematite  
(Iron oxide)  
Magnetite  
(Iron oxide)  
Limonite  
(Iron oxide plus  
water)  
Siderite  
(Iron carbonate)

Refined Product

Ferrous sulphate ..... —anemias  
Ferrous carbonate ..... —tonics  
Ferric phosphate ..... —tonics  
Ferric oxide ..... —tonics  
Ferric ammonium  
citrate ..... —tonics  
Ferric cacodylate ..... —tonics

Principal Medicinal Use**Lead**

Lead is mentioned in the Old Testament. The Romans called lead, plumbum nigrum, in contrast to tin, which they called plumbum album. Lead was used

to make coffins, in artistic work and to make water pipes. A great many cases of poisoning occurred from the lead when the water containing carbonic acid would

dissolve some of it. The Romans used the lead salt mostly as a disinfectant for war wounds.

The end product of radium is lead. Some feel that lead deposits in the earth resulted from radium. If so, a great deal of radium once must have existed be-

cause the lead deposits in many instances are huge. In southeastern Missouri some galena deposits distributed in a horizontal bedded limestone, measure 300 to 800 feet deep and extend many acres in width.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Galena (Lead sulphide)	Lead acetate .....	—astringent
Cerussite (Lead carbonate)	Colloidal lead .....	—used experimentally in cancer

#### Lithium

Lithium comes from a Greek word meaning stony. Arfenson first recognized it as a metal in 1817. It was used in

medicine a great deal more 100 years ago than it is now, but it was never used very extensively.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Spodumene (Lithium aluminum silicate)	Lithium benzoate .....	—depressant
Lepidolite (Lithium mica)	Lithium bromide .....	—depressant
	Lithium carbonate .....	—diuretic
	Lithium citrate .....	—gouty lesions
	Lithium salicylate .....	—gouty lesions

#### Magnesium

One of the first salts of magnesium to be used in medicine was Epsom salts, which was isolated in 1695.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Talc (Magnesium silicate)	Talcum powder .....	—soothing, protective agent
Dolomite (Magnesium, calcium carbonate)	Magnesium trisilicate .....	—antacid - stomach
Magnesite (Magnesium carbonate)	Magnesium phosphate .....	—antacid - stomach
Sea water	Magnesium carbonate .....	—antacid - stomach
	Magnesium oxide .....	—antacid - stomach
	Magnesium citrate .....	—for constipation
	Magnesium hydroxide (Milk of Magnesia)	—for constipation
	Magnesium sulphate .. (Epsom salts)	—for constipation

#### Manganese

Although manganese has been known several hundred years, it was never used extensively medicinally. Pyrolusite was

known early, but was thought to be a magnetic oxide of iron. It was not until 1774 that Ghan isolated it.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Franklinite (Iron, zinc, manganese oxide)	Potassium permanganate .....	—oxidizing agent

Pyrolusite  
(Manganese oxide)  
Manganite  
(Manganese oxide  
plus water)

Manganese  
hypophosphate ..... —produces vitamins, enzymes  
—necessary for hormones  
—hematinic

### Mercury

This element is the most important in the rise of minerals in medicine. This is principally due to Paracelsus and Syphilis. Mercury was not known to the Jews or early Greeks. Theophrastus mentioned it 300 years B.C. He obtained mercury from cinnabar by treating it with copper and vinegar.

Not much was done with mercury until the sixteenth century, when Paracelsus came up with his theory that man was composed of three elements, sulphur, mercury and salt and that the normal body action depended on these three minerals and that disease occurred when one of these elements was increased or decreased in amount.

At about this time syphilis, which was brought back by Columbus and his Span-

ish sailors from the West Indies, was ravishing Spain and quickly spread to France. All sorts of theories were given for the cause of this disease. Fracastorius, who wrote a poem about the disease, said that a young shepherd, by the name of Syphilis, had incurred the wrath of the gods and was stricken with the disease. The French blamed the Neopolitans for it and the Spanish blamed the French. However, it remained for Paracelsus to do something about its treatment. He thought the disease was a result of the lowering of the mercury content of the body and instituted mercury in his cases, which was given by mouth and used as a salve. A great many of his cases were cured. This treatment is still continued today.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Cinnabar (Mercury sulphide)	Mercury .....	—for thermometers, blood pressure units, ultra-violet lights
	Blue mass .....	—antiseptic cathartic
	Mild mercurous chloride powder .....	—antiseptic
	calomel .....	—cathartic diuretic
	Mild mercurous chloride ointment ....	—Kills lice and nits
	Strong mercurous chloride ointment ....	—venereal diseases
	Mercuric chloride (corrosive sublimate) .....	—antiseptic syphilis
	Red mercuric iodide ..	—disinfectant
	Yellow mercuric oxide .....	—infections of the skin, eye, and ear infections
	Mercuric oxycyanide ..	—syphilis
	Mercuric salicylate .....	—syphilis
	Ammoniated mercury	—skin infections due to the staphylococcus
	Mercupurin .....	—liuretic



**Molybdenum**

Molybdenum was mentioned at the time of Pliny to denote substances containing lead and sulphur. Molybdenite was considered to be a lead ore until Scheele in 1778 pointed out the differences.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Wulfenite (Lead molybdenate)	Molybdenum .....	—X-ray tubes —Very poisonous, when found too abundantly in soil, poisons live stock

**Nickel**

Nickel has been known since early times. It is a grayish, white metallic element of considerable malleability and ductility. The Chinese used it with other metals, especially with copper and zinc to form alloys. It occurs in the uncombined condition and alloyed with iron in meteorites. It is used industrially to make nickel and chrome steel.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Millerite (Nickel sulphide) Niccolite (Nickel arsenide)	Nickel sulphate .....	— migraine headaches — nerve disorders

**Platinum**

Platinum in an impure state was known in very early times, but because of its high melting point was little used. It is used industrially to make certain laboratory dishes, crucibles, weights, etc. and jewelry.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Native platinum Cooperite (Platinum arsenic sulphide) Sperryllite (Platinum arsenide) Platinum containing sands	Platinum ..... (refined metal)	—needles, cautery, loops, in bacteriology, in radium applicators

**Phosphorus**

Phosphorus is a relatively recent element. It was first obtained in 1669 by Brand of Hamburg.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Phosphate rock Apatite (Calcium fluorine phosphate) Bone ash (Tricalcium phosphate)	Calcium phosphate .....	—bone metabolism bone diseases

**Potassium**

Potassium is extremely common in the ocean and seas being about 30 times more common than sodium. The amount calculated to exist in the sea is  $1,141 \times 10^{12}$  tons. While potassium is much more

common in the sea and in the ground than sodium, plants take up sodium a great deal easier than potassium. It is the only element present in the body, which is normally radioactive.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Sylvite (Potassium chloride)	Potassium chloride .....	—Ringer's solution
Carnallite (Potassium magnesium chloride)	Potassium bromide .....	—insomnia, nervousness
Polyhalite (Potassium magnesium chloride)	Potassium iodide .....	—(see Iodine)
Salt peter (Potassium, sodium nitrate)	Potassium quaiacol .....	—
Alunite (Potassium, aluminum sulphate)	sulfonate .....	—bronchitis
	Potassium sodium tartrate	
	(Rochelle salts) .....	—cathartic
		—Piezo-electric for electric stethoscopes, hearing aids, electrocardiographs, and electroencephalographs
	Potassium sulphate .....	—mild purgative
	Potassium carbonate .....	—antacid
	Potassium bicarbonate .....	—antacid
	Potassium nitrate .....	—asthma
	Potassium thiocyanate .....	—high blood pressure
	Potassium hyposulphite .....	—x-ray and photography
	Potassium oxalate .....	—prevents blood from clotting
	Potassium chlorate .....	—antiseptic for Vincent's Angina

**Radium**

Radium is one of the elements that is always radioactive. The Curies in the

beginning of the nineteenth century discovered its true nature.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Uraninite (Uranium lead oxide)	Radium chloride .....	—treatment of inflammations and growths
Carnotite (Uranium, potassium, vanadium oxide plus water)	Radon	

**Selenium**

Selenium is closely allied with sulphur and tellurium. It is more toxic than tellurium. When present in soil to more than

0.5% parts per million, it causes disturbances to man and beast. In cattle, it causes the hoofs to drop off. Marco

Polo (1254-1327) in his travels in western China, tells of the peculiar effects on cattle of the eating of certain forage, which caused the hoofs of animals to drop off. The fact that too much selenium in the soil and food caused this disease has been known only recently. Selenium is also poisonous to man. Cereal raising

has been abandoned in regions where selenium abounds.

Chronic selenium poisoning is a potential industrial hazard, since selenium is given off in lead, zinc and copper smelting and is widely used in the making of ceramics, paints (red color), copper alloys and rubber manufacture.

#### Main Source

Clausthalite  
(Lead selenide)  
Eucaurite  
(Silver copper  
selenide)  
Maumannite  
(Silver selenide)  
Chalcomenite  
(Copper selenate)  
Molybdomenite  
(Lead selenite)  
Cobaltomenite  
(Cobalt selenide)

#### Refined Product

Selenium .....

#### Principal Medicinal Use

— Causes hoof disease in cattle, horses, chickens, etc.

Industrial poison

### Silver

Silver was known almost about the same time as gold. It is almost always found associated with gold ores, as well as lead, antimony and arsenic. Like gold, the metal is malleable and ductile. One grain of silver can be drawn into a wire a mile long.

It was found in the Royal Tombs of Chaldea, 4000 years B.C. It was also used as money at this time. The hills around Troy 2000 years B.C. must have had a good deal of silver in them, for a great many Trojan vases, flasks and plates were made of silver. Coins with designs of stars, rosettes, leaves, butterflies and octopods were found made of silver as well as of gold. Jewelry in the form of chains, bracelets, hair pins, neck-

laces, pendants, signets and finger rings, plaques for decorating cloth and inlays were found made of silver and gold about 2500 years before Christ.

Precious stones made their appearance in jewelry about 700 B.C. These stones were brilliantly colored, blue, green and red, and made from garnets and pearls and were set in silver and gold. The bible mentions 25 or more precious stones.

Silver was first called "lunce" because the whitish sheen of silver resembled the moon (luna). Silver nitrate is still called lunar caustic. One of the most important uses of silver in ancient times was the treating of lunatics (people having moon trouble).

#### Main Source

Native silver  
Argentite  
(Silver sulphide)  
Cerargyrite  
(Silver chloride)

#### Refined Product

Colloidal silver  
chloride .....  
Mild protein silver  
Argyrol .....  
Strong protein  
silver .....  
Silver nitrate .....

#### Principal Medicinal Use

— infections of the eye,  
nose and throat  
— infections of the  
mucous membranes  
— infections of the  
mucous membranes  
caustic

### Sodium

While sodium compounds have been known since ancient times, it wasn't until 1807 that it was isolated by Davy as an element. The beneficial actions of salt water and spas were known by the Egyptians and Greeks.

#### Main Source

Halite  
(Sodium chloride)  
Saltpeter  
(Sodium,  
potassium nitrate)  
Borax  
(Sodium borate)  
Bone ash

#### Refined Product

Sodium chloride ..... — replaces salt in the body-  
(common salt) wet dressings, etc.  
Sodium hypochlorite .. — antiseptic  
Sodium bromide ..... — depressant  
Sodium bicarbonate .... — antacid  
Sodium citrate ..... — anti-coagulant  
Sodium nitrate ..... — high blood pressure  
Sodium thiocyanate .... — high blood pressure  
Sodium salicylate ..... — pain, arthritis  
Sodium lactate ..... — antacid - blood  
Sodium borate ..... — depressant  
Sodium perborate ..... — oxidizing agent  
Sodium phosphate ..... — mild cathartic  
Sodium sulphate ..... — cathartic  
(Glauber salts)

#### Principal Medicinal Use

### Strontium

Strontium was found in the mineral strontianite, named after Strontian, Scotland, by Cruikshank in 1787. It is feebly toxic. It was not and is not used very much in medicine.

#### Main Source

Strontianite  
(Strontium  
carbonate)  
Celestite  
(Strontium sulphate)

#### Refined Product

Strontium bromide .... — epilepsy  
Strontium  
salicylate ..... — pains

#### Principal Medicinal Use

### Sulphur

Sulphur has been known as brimstone since ancient times. It occurs in hair, wool, albumin, vitamins, garlic and mustard. The ancients knew that the taking of sulphur gave one more shiny hair and a better complexion. It was freely given as a spring tonic. It was also used as an antidote in cases of poisoning.

#### Main Source

Native sulphur  
Iron pyrite  
(Iron sulphide)

#### Refined Product

Sulphur ..... — fungicide, paraciticide,  
kerolytic

#### Principal Medicinal Use

### Titanium

Its existence was discovered in 1789 in the black sands of Menachan, Cornwall, England. Klaproth, while investigating rutile, found a new element, which he called titanium because of its strength after Titans, the Greek god of strength. He later found out that titanium was present in ilmenite and rutile as well as the black sands of Menachan. Titanium is more abundant than carbon, phosphorus, sulphur, lead, copper or zinc, but it is much more disburshed than these elements. It was never used much in medicine and now only to a slight extent.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Ilmenite (Iron titanate)	Titanium dioxide .....	—face powders anti-sun lotions and creams
Rutile (Titanium dioxide)		
Titanite (Calcium, tungsten silicate)		

**Thallium**

Thallium was discovered by Sir William Crookes in a spectroscopic examination of seleniferous pyrites. The spectrum showed strange green lines, thus the name thallium, from the Greek word,

green twig. Thallium salts are used in the manufacture of certain optical glasses. The salts are poisonous, having an action somewhat similar to lead. Thallium has a pronounced depilatory action.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Vrbaite (Thallium, arsenic, antimony trisulphide)	Thallium cream or lotion .....	—hair remover
Lorandite (Thallium, arsenic trisulphide)		

**Tungsten**

The name, tungsten comes from the Swedish words, tung (heavy) and sten (stone), or heavy stone. Up to the 18th century, the mineral then known as tungsten, now called scheelite and wolfram, was considered to be an ore of tin. Salts of tungsten can be divided into two cry-

stalline groups, the iron and manganese tungstates (the wolfram group) crystallize in the monoclinic system; while calcium tungstate or scheelite belongs to the tetragonal system. Industrially, tungsten is used mainly to make tungsten steel.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Scheelite (Calcium tungstate)	Tungsten metal .....	—X-ray tube target fluorescent screens (Calcium tungstate)
Ferberite (Iron tungstate)		
Hubnerite (Magnesium tungstate)		
Wolframite (Iron, magnesium tungstate)		

**Vanadium**

This element was first discovered by Del Rio in 1801. It is used primarily in the making of steel. Ammonium vanadate has been used in leather dyeing and other salts have been employed in photography

and chemotherapy. Vanadium arsenates and salicylates have been used medicinally, the latter as a substitute for salvarsan. Vanadium salts may cause poisoning.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Vanadinite (Lead, chlorine vanadate)	Vanadium arsenate ....	—syphilis
Carnotite (Vanadium, potassium, uranium oxide)	Vanadium salicylate ..	—syphilis

### Zinc

Zinc was never thought of very highly as a metal. As a matter of fact, it owes its name of *zinken*, a derogatory word first used by Paracelsus. Zinc and bismuth were often confused. The art of zinc smelting occurred in England in 1730.

Zinc was used mostly to coat iron (galvanize) to protect it from the atmosphere. It is only in the last several hundred years that it has been extensively used in medicine in about the same way that we use it today.

<u>Main Source</u>	<u>Refined Product</u>	<u>Principal Medicinal Use</u>
Sphalerite (Zinc sulphide)	Zinc .....	—needed for blood, enzymes
Zincite (Zinc oxide)	Zinc oxide .....	—skin conditions
Franklinite (Iron, zinc, manganese oxide)	Zinc oxide paste Lazzar's, Unna .....	—skin conditions
Willemite (Zinc silicate)	Zinc acetate .....	—astringent
Calamine (Zinc silicate)	Zinc chloride 5% .....	—astringent
	Zinc chloride 50% .....	—caustic
	Zinc peroxide .....	—oxidizing agent
	Calamine lotion .....	—skin conditions
	Calamine liniment .....	—skin conditions
	Protamins-Zinc insulin .....	—diabetes
	Zinc sulphate .....	—emetic

## COLLECTOR'S TALES

### RANCHER'S LOVE THEIR CATTLE!

Here is a story, a true one, as I met the rancher who is the principal actor in the story.

Wyoming is a large oil producing state, and oil is being pumped on many ranches. Some ranchers have an income of several hundred thousand dollars a year in oil royalties, but they all love cattle and keep on raising cattle, although they need money just like I need trap rock. This rancher has a large ranch on the western side of the Laramie Mountains, about 50 miles west of Laramie, Wyoming, and he

also has several oil wells on his ranch. But he keeps on raising cattle for the market. One night he was awakened by the light of a conflagration on his ranch. He ran out and inquired of a hired hand "What's burning?" On being told it was an oil well, he turned around and went back to the house, exclaiming, "Oh, hell I thought it was a hay stack burning."

Ranchers love their cattle, not their oil!

John S. Albanese  
Box 536, Newark 1, N. J.



## WE CLIMB A VOLCANO

By MRS. GENE OHM

205 Sunset Road, San Antonio, Texas

Are you bored? Want a change? Do something different? Then climb Paricutin. I'll guarantee it's different from anything else you ever did!

We started from the hotel in Uruapan at 3 A. M. (that's right, Three-Ay-Em!) October 17, 1950, in a taxicab. Drove about 25 miles and made it in an hour—good time, everything considered. By then we were quite high in the mountains and so cold I knew why the billy-goats up there don't have horns. The taxicab deposited us in a weird conglomeration of Indians, horses and mules all lit up by two oil lanterns and the volcano a dull red glow in the sky.

Before we mounted our horses, the Indian boys brought us Serapes (the horse blanket kind with a slit in the middle to stick your head through) and insisted we wear them. I gave one shuddering thought to the fact that the Indian had probably slept in it for the past twenty years and gratefully stuck my head through the slit. By then I was too cold to worry about sanitation, in spite of the fact that the Hotel keeper had decked me out in denim overalls and jumper over my slacks and sweater before we started.

At last we got under way. I drew a nice little pony that knew how to treat the customers, but poor Herb got the biggest stiff-legged mule in the lot—and had to have his "lowers" welded when we got home! There were about a dozen in the procession, an Indian to lead each horse (and Herb's mule). The Indian at the head carried an oil lantern, otherwise the trip was made in pitch darkness except when the volcano "burped" extra hard. We knew, of course, that we were going almost straight up, were vaguely aware of mountains all around and high walls of lava beside the trail from which we felt occasional blasts of heat, but were unable to actually see anything. After about two hours of this, we reached the top of the mountain overlooking the volcano. Cold and stiff as we were, it was a great relief to dismount

and break out the bottle of "warmer-upper."

And there was Paricutin in all its awesome beauty! Two great fiery red rivers of lava pouring out from its side. The clouds overhead glowing dull red and every few minutes great bursts of smoke and flame shooting up to incredible heights, followed by a rain of sparks and coals dropping and splashing in the hot lava and ash. (I learned later that those sparks and coals were boulders weighing several tons!) Then it all slowly began to grow dim and other things became visible. As the light grew stronger, we gazed on a scene of such desolation as I had never imagined possible. The mountain we were on had been built up of volcanic ash and was almost as high as the crater itself. In a valley below us, trees were still standing—but skeleton trees, dead and bleached white as bones. As far as we could see in all directions there was nothing but lava and ash. The steeple of the Church is all that is visible of the little village, the lava has completely covered it above the roof tops. And on the way down, we could see the steaming hot lava we had felt going up. After seven years it is still hot, ten miles or so from the volcano.

But it was only after we got back to the Hotel and ordered coffee by the gallons and all the food on the menu that it struck me what was really the most amazing thing about it all. THERE ISN'T EVEN A HOT DOG STAND ON THAT MOUNTAIN!

—Bulletin of the San Antonio  
Rock and Lapidary Society,  
October, 1950

(Editor's Note: Paricutin, the wonder of the hemisphere, is a volcano which made its first appearance in a corn field at 5:30 p.m., on February 20th, 1943, in the State of Michoacan, Mexico. See ROCKS AND MINERALS, Sept., Oct., and Nov., 1943, and Jan., 1944, in which interesting articles on the appearance and progress of the famous volcano were described by Paul E. Kilinger).

## WORLD NEWS ON MINERAL OCCURRENCES

Items on new finds are desired. Please send them in.

**ALABAMA**—Nice specimens of turgite on limonite have been found at Piedmont, Calhoun Co., Ala.

**ARIZONA**—The following letter was recently received—"Noting that you are interested in receiving specimens from various locations, we are sending you one from Arizona. We believe it to be very unusual as no one with whom we discussed it has seen anything like it from any other location—nor is there much from this location. We found this material, butterfly calcite on a rare shade of pink barite spotted with galena, in an old mine tunnel located west of Tucson. There were also calcite and aragonite crystals but not much of the barite with calcite and galena." David P. Record, Mission Curio Mart, 4400 Mission Road, Tucson, Arizona.

The 2 x 3 inch specimen consisted of platy pale pinkish barite crystals encrusted with tiny very thin colorless calcite crystals (butterfly-shaped) and tiny galena crystals. It is an attractive specimen.

**ARKANSAS**—Black, cellular masses of psilomelane are found in the Hanby manganese mine near Glenwood, Pike County, Arkansas.

**CALIFORNIA**—We are indebted to Howard V. Hamilton, 187A Franklin Avenue, Vandergrift, Pa., for the following item on cerium and lanthanum sources:

The world's only known primary bastnasite deposit which shows possibilities of becoming a commercial working is under development near Mountain Pass, San Bernardino County, Calif. Molybdenum Corporation of America is at present sinking a two-compartment shaft to the 100-foot level of the deposit of bastnasite—the fluocarbonate of cerium and lanthanum—which was discovered late in 1949. Full significance of the deposit will

not be determined until Molybdenum Corporation has tested its underground workings. But if the veins are as rich and easily mined as anticipated, the area should supply sufficient amounts of bastnasite to meet U. S. cerium and lanthanum requirements and eventually make this country independent of foreign—mainly Brazilian—sources. Cerium uses: in arc carbons and in light flints, alloyed with iron. — **CHEMICAL AND ENGINEERING NEWS**, Sept. 11, 1950.

Peter Young, Box 601, Kentfield, Calif., has visited the bastnasite locality and in a recent letter he writes: "Bastnasite in massive form, occurs near Mountain Pass, Calif. The mine is about 3 miles off the road to the north. A good dirt road leads to the mine. The mine consists of one shaft. Some bastnasite has been taken out, but the shaft is being lowered in hopes of hitting the main ore body. Some specimens of this rare earth mineral can be found, although most of the original find has been taken away for assaying. This mine will be a potential source of cerium metal in the future."

The discovery of the bastnasite deposit was announced in the March-April, 1950, **ROCKS AND MINERALS**, p. 123.

Mr. Young also sends a note on a magnesite locality in Tulare Co., Calif.

"Magnesite, in pure massive form, occurs at Rocky Hill, near Exeter, in Tulare Co., Calif. The magnesite mines are just outside of Exeter, about 400 feet up the hillside from the road. It would be best to ask for directions in Exeter as everyone there knows about the magnesite mines.

"The main workings consist of a tunnel which goes in 20 feet horizontally then splits to form two tunnels (in the shape of a Y). The best place to collect is at the split. The other two tunnels go in an undetermined distance as I had no light to investigate them."

**COLORADO**—Dark pinkish crystalline masses of andalusite are found west of Fort Collins, Larimer Co., Colo.

**CONNECTICUT**—Crystals of epidote, green in color, up to 3 inches long, often bent and broken (by nature) and imbedded in massive smoky quartz, have been found in Willimantic, Windham Co., Conn.

**DELAWARE**—In the last issue of R & M, mention was made of petrified wood being found in the state near Cape Henlopen, over 100 years ago. Since then we have heard that petrified wood is still available but at another locality (Drawyers Creek) and to our very great delight a beautiful specimen, chocolate-brown in color, 1 x 2 x 16 inches in size and weighing 3½ lbs, was donated to us by J. K. Fisher, 147 Fairlamb Ave., Havertown, Pa. The specimen had been found about 1945 by Edward Jochen—a teacher in the Junior High School, Upper Darby, Pa., who has a summer camp at Shallcross Lake in Delaware. According to Mr. Jochen, petrified wood is found along Drawyers Creek, between Shallcross Lake and US 13, in New Castle Co., Del. The wood is not common, but specimens have been found now and then. The locality is northwest of Odessa and southwest of McDonough, both in New Castle Co.; Shallcross Lake drains into Drawyers Creek.

**DISTRICT OF COLUMBIA**—Again we are indebted to Howard V. Hamilton, 187A Franklin Ave., Vandergrift, Pa., for another interesting item.

The Geological Survey of the U. S. Dept. of Interior has found in Washington, D. C., lignite deposits that appear to be the world's second richest known concentration of germanium—virtually in the shadow of the Capitol. Discovery was made by T. Stadnichenko, K. J. Murata, and J. M. Axelrod of the U.S.G.S. Concentrations in the lignite ash run from 3 to 5%, reach as high as 6 in some deposits.

Highest content from comparable material is 1% from coal ash in Great

Britain. Southwest Africa and Belgian Congo deposits reach 9% germanium content but from the mineral germanite, not lignite. Recovery of the newly found deposits seems doubtful because of their scarce and scattered nature, although a consulting mining engineering group has shown interest to the extent of checking the U.S.G.S. samples. — **CHEMICAL AND ENGINEERING NEWS**, August 21, 1950.

**FLORIDA**—An interesting note was received recently from Merton McKown, 114-20 146th Street, So. Ozone Park 20, N. Y. Wrote he: "I was in Florida for 7 weeks last January and February and collected some interesting specimens. On the beach at Ft. Pearce I found some interesting sand concretions which looked like small sticks thrown together in irregular arrangement. Pickings at Bal'ast Point, near Tampa (coral geode locality) were very scarce; found only one nice specimen with drusy quartz. At Crystal River limestone quarry (Crystal River), nice sharp calcite xls were found. I visited the Children's Museum in Jacksonville which had one showcase with quartz minerals on display. The museum had a small storeroom in which were a number of unidentified minerals. I spent a full day getting them catalogued. I also donated about 20 specimens."

**GEORGIA**—Nice grayish to brownish specimens of halloysite have been found just west of Gore, Chattooga Co., Ga.

**IDAHO**—R. L. Sylvester, 154 Parkside Ave., Syracuse 7, N. Y., while on his way to the big Pow-Wow that was held at Vantage, Wash., last July 1-4, stopped off in Idaho to do some collecting with a party of rockhounds, of whom Frank Zimmerman, of Payette, Idaho, was one. Samples of some specimens collected by Mr. Sylvester have been donated to R & M among which are some nice geodes and an obsidian from Hog Creek, Washington Co., Idaho (not far from Weiser); large sheets of muscovite and one specimen of massive smoky quartz encrusted with colorless hyalite (opal) which specimens come from a columbite

mine near the small town of Garden Valley, in Valley Co., Idaho. The hyalite fluoresces green under the Mineralight.

A letter dated Sept. 25th, 1950, from G. Elmo Shoup, P. O. Box 756, Salmon, Idaho, gives this interesting information: "Lemhi County, Idaho, Fair held at Salmon, had a new treat this year with the addition of Mr. Grant Talbott's display of cut and polished material to its mining department display. We hope to put on a larger display next year. Caleria Mining Company—Blackbird cobalt ore—of Forney, Idaho, won first prize in the Rare Metals Class."

**ILLINOIS**—A nice specimen of dark brown xld sphalerite, associated with xline marcasite, and coming from the noted Blackjack mine at Galena, Jo Davies Co., Ill., was donated recently to R & M by Donald Stanley, 1135 N. Latrobe Ave., Chicago 51, Ill.

**INDIANA**—A nice group of smoky quartz crystals, 7 x 7 inches in size and weighing 9 lbs., was found about a year ago during the excavation for a bridge about a mile north of Greencastle, Putnam Co., Ind. (The bridge was built over a small creek for a private road). The specimen was found by one of the workmen, a Mr. Slavens, and whose young grandson damaged some of the crystals. Later the specimen was given to Mr. Walter Reeves, R3, Greencastle, Ind., who in turn presented it to the Editor of R & M, when the latter visited him on Tuesday, October 10, 1950. The visit to Mr. Reeves was made in the company of Mr. and Mrs. Howard V. Hamilton, of Vandergrift, Penn., and the collectors were guided to several localities where a number of interesting specimens were found. This trip will be written up and will be printed in R & M.

**IOWA**—Nice dark brown masses of xld siderite have been found at Oskaloosa, Mahaska Co., Iowa.

**KANSAS**—Jess Vague, Superintendent of Leoti High School, Leoti, Kans., recently discovered a pair of huge opalized mastodon tusks. These tusks were found

in Phillips County, Kansas, buried in a sand pit. The tusks measured about 13 feet in length and about 8 inches in diameter.

—The Lapidary Journal, Oct., 1950, p. 262 (Leland Quick, Editor, P. O. Box 1228, Hollywood 28, Calif.)

**KENTUCKY**—J. M. Howell, 1720 W. 5th Ave., Gary, Ind., has been collecting near Abe Lincoln's birthplace, Hodgenville, Larue Co., Ky. Among the specimens found are a quartz geode lined with tiny smoky quartz crystals; drusy quartz (milky) lining cavities of a cellular quartz rock; and fossil coral (silicified).

**LOUISIANA**—Near Sicily Island, Catahoula Parish, La., is an old gravel pit about 70 feet deep. A recent collector at the pit was Mrs. L. H. Mulvihill, Box 749, Ferriday, La., who found dark brown also dark red jasper pebbles, grayish chert pebbles some coated with drusy rock crystals, grayish petrified wood pebble, and a nice dark brown limonite geode ("rattlebox"—which contains sand grains or tiny pebbles inside it which cause the rattling when the geode is shaken).

**MAINE**—A tiny flat gold nugget, found in the gold-bearing gravels of Swift River, at Houghton, Oxford Co., Me., was donated recently to R & M by Charles Marble, Buckfield, Me.

**MARYLAND**—According to "Minerals of Maryland," issued by the Natural History Society of Maryland (2103 N. Bolton St., Baltimore, Md.) large quartz crystals were found at the old Silver Spring in the rear of the Park Zoo (Druid Hill Park, Baltimore). Petrified wood and hollow ironstone concretions have also been collected. (p. 14).

**MASSACHUSETTS**—Gunnar Bjareby, 147 Worthington St., Boston 15, Mass., sends in the following note: "Danalite has been found in small masses at Folly Point, Gloucester, Essex Co., Mass. Recently I found a 3/4 inch crystal. These crystals are exceedingly rare."

**MICHIGAN**—Small rock crystals in white calcite occur in the Isle Royale copper mine, near Houghton, Houghton Co., Mich.

**MINNESOTA**—William Bingham, a commercial lapidary (2100 Arcade St., St. Paul 6, Minn.) introduced a new rock find officially named **HOVLANDITE** by the Minnesota Mineral Club. The Minnesota Mineral Club decided to call the rock Hovlandite, after the town in northeastern Minnesota where it is found.

The following minerals occur in Hovlandite: (notes in parentheses indicate the appearance on a thin section with a petrographic microscope): xonotlite (felt like); pectolite (radiating); augite (very fresh); prehnite (light green, sheaf-like); koalinite (dusty outline, former plagioclase laths); chlorite (plagioclase altered to pectolite, prehnite and kaolinite); ilmenite (altered to magnetite and leucoxene); plus occasional flakes of free copper and small amounts of other minerals. This material is lovely rich green, somewhat mottled, and takes a good polish. From a short distance it closely resembles chlorastrolite (Isle Royal Greenstone) in texture and appearance. It is available in fair amounts and is found in chunks that weigh as much as 8 or 10 pounds each.—**MINERAL NOTES & NEWS**, August, 1950, p. 15 (P.O. Box 204, Ridgecrest, Calif.)

**MISSISSIPPI**—Over 100 years ago a crystal of amethyst was reported as being found in Mississippi, but the locality was not given. It was mentioned in "A catalogue of American minerals with their localities," by Samuel Robinson, M.D., Boston, 1825, p. 225.

**MISSOURI**—A recent letter from Peter B. Nalle, 420 "A" St., Bonne Terre, Mo., reads as follows:

"I am working for the St. Joseph Lead Co., in the capacity of mining engineer and see the underground workings almost daily. I have always been on the look-out for interesting minerals but as you probably know, the southeast Missouri district is noted for its disseminated deposits. The

number of well crystallized specimens coming from the area is much less than coming from, say, Joplin. In general, the ore occurs as small subhedral grains of galena in shale, sandy dolomite or glauconitic dolomite. Accessory minerals are chalcopryite, marcasite, sphalerite, calcite, dolomite and rarely, siegenite. Although not generally reported, I have found small and poor specimens of oxidized minerals in and near fault zones. To date in this group I have found malachite, anglesite, covellite, and perhaps, linarite. Personally, I have not seen siegenite either in the mine or in a hand specimen. It has been pointed out to me as a middling product of the shaking tables in the mill but of course it was finely ground.

"The other day in stoping operations in one of the mines at Leadwood, Mo., the miners broke into a small cavity lined with crystals. I was able to rescue some of the better ones from the run of mill ore and I am mailing you a few under separate cover. The zonal growth of calcite showing enclosures of marcasite is typical. I have never seen well crystallized sphalerite in these mines."

The minerals from Leadwood, St. Francois Co., Mo., consisted of calcite (pale golden crystals with marcasite inclusions), chalcopryite (tiny lustrous crystals on gray limestone), galena (crystallized in cubes and encrusted by marcasite), marcasite (tiny but beautiful prismatic crystals encrusting galena and as inclusions in golden calcite).

**MONTANA**—Nice pure masses of chalcopryite occur in the Argo mines, Hellgate Canyon, Lewis and Clark Co., Montana.

**NEBRASKA**—Celestite, in crystal masses, occurs in the limestone quarries at Wymore, Gage Co., Nebr.

**NEVADA**—In the Arrowhead gold mine, in the south corner of Douglas Co., Nev., molybdenite is very scarce. A nice specimen from the mine, however, consisting of small xline masses of molybdenite with massive smoky quartz in brown tactite, was recently donated to

R & M by Hatfield Goudey, Yerington, Nevada.

**NEW HAMPSHIRE**—Nice gemmy amethyst, some of which has been cut and faceted, has been found at Berlin, Coos Co., N. H. Two faceted stones, 12.73 and 9.9 carats, have been on display (and may still be) in the American Museum of Natural History, New York City.

**NEW JERSEY**—Willemite, as white fibrous crystals, is known to occur in the zinc mines at Franklin, Sussex Co., N. J.

**NEW MEXICO**—A nice specimen of yellowish jarosite from the Copiapo Jarosite mine, Franklin Mts., Berino, Dona Ana Co., N. Mex., was donated recently to R & M by Alfred M. Perkins, Casa de las Cruces, Las Cruces, N. Mex. The Copiapo Jarosite mine is a remarkable deposit of almost pure jarosite, a hydrous potassium and iron sulfate.

**NEW YORK**—A unique specimen for the Peekskill area is oolitic jasper. One specimen, 1x1 inch reddish-brown oolitic jasper pebble, was found on Thursday, August 24, 1950, at the deLuca emery mine, 2 miles east of Peekskill, Westchester Co., N. Y. The pebble was found in the road excavation below the office.

Miss Patsy Bourne, 350 Washington St., Peekskill, N. Y., a young cousin of the Editor of R & M, spent a few days last August at Stony Brook, Suffolk Co., N. Y. which is on the northern shore of Long Island. While there she collected a few pebbles off the beach for her big cousin and among them was a very nice half-section of a red hematite geode, a small brown limonite geode (rattlebox), and a very nice milky quartz.

Some very nice specimens of molybdenite plates on smoky quartz, were found this summer by Mr. Waller V. Morgan, 127 Brambach Road, Scarsdale, N. Y. The locality for the specimen is a small quarry on the west side of Central Avenue, near Cross County Parkway, Westchester Co., N. Y. This locality is

not to be confused with the Mile Square quarry, about  $\frac{1}{4}$  mile to the south.

Incidentally Mr. Morgan sends in a note on a new locality for Westchester County. The new locality is  $1\frac{1}{2}$  miles east of Bedford on the Long Ridge Road (Poundridge). Here in a hydrothermal vein of calcite is found pyrite, marcasite, galena, chalcopyrite, zircon, pink calcite, rose quartz and pyroxene (augite).

**NORTH CAROLINA**—Beautiful amethyst crystals have been found at Ellijay, Macon Co., N. C.

**NORTH DAKOTA**—Pale brownish, translucent botryoidal chalcedony masses of good quality are found along the west bank of the Knife River, north of Hebron, in southwestern Mercer Co., N. D.

**OHIO**—A letter dated Sept. 9, 1950, from C. O. Gettings, 2001 Starr Avenue, Toledo 5, Ohio, reads as follows:

"Seldom do we come home from a new location that I do not marvel again at the minerals of Ohio.

"August 15th we took the day off to explore the quarries of Henry, Putnam, and Hancock Counties. After a careful search of PIT and QUARRY HANDBOOK, I had marked the producing quarries of that region. The county road commissioner at Ottawa, Putnam Co., gave me much help. He informed me that Cloverdale, Ft. Jennings, and the one near Ottawa were flooded and therefore not worth the time. He recommended Gilboa and Pandora. Both he and PIT AND QUARRY knew of no quarry in Henry County.

We first visited Gilboa. This is a very hard sedimentary limestone showing no fossils. The family and I found considerable calcite, a bit of pyrite and sphalerite and then I hit the prize find. On the side of a huge chunk of limestone were three PURPLE FLUORITE CUBES. This is the first find of purple fluorite in Ohio, to my knowledge. (Sorry to add that the cubes were only about  $\frac{1}{8}$ ".)

"At Pandora we met the most sociable quarry owner I have ever seen. Mr. Elias Schumacher, the owner, a well preserved



man of the middle sixties, seemed most pleased that we were interested in the minerals he might have in his quarry and told us we were most welcome to hunt anytime. (Why can't all owners be like Mr. Schumacher). I hunted the new blast and was called by the shovel operator. When I went over he asked me if I were looking for crystals and pointed to a pile on the side of the shovel. I picked out several very good calcites and some light yellow fluorites. The calcite looked very complex but is really a rhombohedron perched on top of a very steep rhombohedron of the opposite order. This is the same type I found at Holland, Ohio. The fluorite, a beautiful delicate yellow cube about 1½", was imbedded in solid massive crystalline calcite. Under the U.V. light it showed very strong fluorescence and was phosphorescent.

"Two days later we visited Heidelberg University at Tiffin, Ohio, and spent several hours with my friend, Dr. Joseph Jones, who is in charge of the mineral museum of the college. This collection is well worth any collector's time and Dr. Jones is a most genial host.

"On our way home we stopped at Gibsonburg to visit the quarry. Here we found fluorite at its finest. The three pockets we found were of different colors. The first was a light brown, metallic and glistened like diamonds. The second, found by my daughter, Carol, was purple metallic. The last and biggest was light brown and had crystals up to 3 inches in size. It was in this pocket that we found the big mystery. Both Dr. Pough, of the American Museum of Natural History of New York City, and I believe it to be an anhydrite cast similar to those common at Paterson, N. J.

"Hardly a week passes that some collector doesn't bring in some of their finds to me for identification. Several weeks ago Miss Jane Goorley, of our Mineral Society, stopped to show me her finds from a quarry west of Bowling Green, Ohio. I could hardly believe my eyes for she had some beautiful light blue barite crystals and some of the most interesting and well crystallized pyrite. Not the

usual thin crust of pyrite found in this district but slabs up to one inch thick. After looking over her specimens, I asked for full directions to this quarry.

"Labor Day gave me an excuse to close my gas station for the afternoon and look up this new location. Even with her directions we drove at least 20 miles around the quarry before we could locate it. We obtained permission from the owner and parked the car in the middle of the first level. The family spread out to cover the quarry and within two minutes we were calling to each other to come and see the finds. NEVER have I seen such mineralization in one quarry! The lower level showed abundant pyrite and calcite both well crystallized and in quantities far beyond any collector's dreams. On the upper level were barite, fluorite, sphalerite, calcite and one unidentified mineral—small balls of golden yellow on pyrite."

(Editor's Note: The above limestone quarry near Bowling Green was visited on Monday, October 9th, with Mr. and Mrs. Howard V. Hamilton, of Vandergrift, Pa., and guided by Mr. and Mrs. Gettings. It was raining lightly when we left Toledo but by the time the quarry was reached it was pouring and how it did come down! There we all sat in the car in the middle of the quarry, hoping and praying for the rain to stop (none of us had raincoats). Golden calcite crystals were all around us, some of huge size. More than once we tried opening the door to dash out for a specimen, but the rain drove us back. Finally in desperation, after waiting for over an hour, we had to get out, rain or no rain. I had a bright idea. As I dashed out of the car, I grabbed a large specimen which looked good and headed for the nearby steam shovel under which I crouched, in perfect security from the rain and where I calmly broke up the mass securing some good specimens. The others may have secured far better specimens than mine but I was practically dry on returning to the car 10 minutes later while they were all thoroughly wet.)

**OKLAHOMA**—According to the Sept. 1950 issue of the *SOONER ROCKOLOGIST*, p. 4, published monthly by the Oklahoma Mineral and Gem Society (Domer L. Howard, Editor, 1229 N. W. 47th St., Oklahoma City, Okla.) some crystals of green zircon have been discovered at the old Crystal Zircon mine, near Indianola, Comanche Co., Okla. The crystals are all very small and badly flawed.

**OREGON**—While on his western trip to the big Pow-Wow at Vantage, Wash., last July, R. L. Sylvester, 154 Parkside Ave., Syracuse 7, N. Y., stopped enroute at Burns, Harney Co., Ore., to collect some thundereggs. Apparently he must have found some very fine specimens around Burns if we are to judge by the beautiful chocolate-colored polished half-section sent R & M.

**PENNSYLVANIA**—L. J. Duersmith, 405 Poplar St., Columbia, Pa., has donated to R & M three interesting Pennsylvania specimens; apophyllite, greenish xled "ball" from the famous iron mine at Cornwall, Lebanon Co.; cryptomelane, black cellular nodular mass from White Rocks, Cumberland Co.; and rutile, 1 x 1¼ inch loose brownish xl from Quarryville, Lancaster Co. The apophyllite ball is a very unique specimen.

In the Aug. 13th, 1950, issue of the *SUN-TELEGRAPH* (Pittsburgh, Pa.) appeared this item by Dorothy Kantner, "Rare sandstone may lead quarryman to comeback." The item deals with a colored sandstone with patterns and stripes so scrambled that they depict flowers, trees, clouds, landscape and marine scenes, etc. This beautiful sandstone is quarried near the little town of Volant, Lawrence Co., Pa. The owner and operator of the quarry is Welty M. Smeltzer, a 67-year old former contractor and builder whose picture is shown in the item along with a large slab of his picture sandstone. The sandstone is quarried exclusively for decorative purposes in the building trade.

On Saturday, April 23, 1949, the Editor of R & M together with Mr. and Mrs. Howard V. Hamilton, of Vander-

grift, Pa., visited the Smeltzer quarry and met Mr. Smeltzer personally who proved to be a most gracious and pleasing individual. We were not only given liberty to roam the quarry at will but Mr. Smeltzer showed us some of his prize slabs. Another privilege granted us—we were permitted to help him quarry out a huge block of sandstone. We have gotten our notes together and hope to have an article on the quarry for an early issue.

**RHODE ISLAND**—Ilmenite in black tabular crystals has been found in the granite quarries at Westerly, Washington Co., R. I.

**SOUTH CAROLINA**—A letter from James A. Ray, 12 Caledonia Road, Asheville, N. C., reads as follows:

"Here is some information concerning a zircon locality in Tigerville, S. C., which you may find of interest.

"Near Tigerville is a large open cut vermiculite mine which until recently was operated by the Universal Zonolite Corp. Associated with the vermiculite is an abundant supply of fine zircon crystals.

"The zircons are found both weathered out and *in situ*, in a weathered lime feldspar (the matrix is almost identical with the one at the Jones zircon mine in Tuxedo, N. C.). They often are well crystallized and in size average around ½". They are to be found from ⅛" to approximately 2½" in size.

"Their color is red brown and they are interesting also in that they are highly fluorescent under the Mineralight (bright orange to golden yellow fluorescence).

"The crystals are very plentiful here and this locality is an ideal one for the collector.

"Also it is only proper for a North Carolinian to write that xanthitane is found at the same South Carolina mine, since in your Jan-Feb., 1950, issue of R & M, a South Carolinian wrote about this mineral occurring in North Carolina (Horace W. Slocum of Rock Hill, S. C.)

"The xanthitane is often found in the vermiculite mine in radiating masses of a bright yellow color."

Tigerville is in the northern part of Greenville Co., in northwestern South Carolina.

**SOUTH DAKOTA**—A noted locality for fine specimens showing native gold in quartz, is the Holy Terror gold mine, northeast of Keystone, Pennington Co., S. D.

**TENNESSEE**—A locality for pyrite crystals in Tennessee is the Ocoee Gorge below Copperhill, Polk Co. The following item was contributed by William Johnson, RFD 6, Knoxville, Tenn., who also sent in a nice specimen of the pyrite in slate:

"In the Ocoee Gorge below Copperhill, the many layers of the Ocoee slates are exposed. At a point about 8 miles east of the Parksville Dam, the slate has a considerable amount of pyrite in it. The highway was cut into the side of the wall and there are large piles of material to be worked over. Mr. P. B. King has one piece about 12 x 5 inches that is covered with  $\frac{3}{4}$  inch crystals. I have gotten several pieces but have not had his luck."

**TEXAS**—Nice red jaspers have been found in southwestern Texas by J. B. Carson, Sierra Blanca, Texas. In a letter dated October 5th, 1950, he writes:

"The jaspers sent you are from a deposit of pebbles and boulders in an ancient river bed and their location is about  $\frac{1}{4}$  mile northwest of a roadside park which is about 7 miles out of Van Horn, coming west on Route 80, and is in Culbertson Co. The bed begins right beside the road."

**UTAH**—There is an interesting item in the September, 1950 Bulletin of the Ward's Natural Science Est., Inc., 3000 Ridge Road, E. Rochester 9, N. Y., titled "Fluorescent 'Hell Fire' Rock from Utah." It read: "In former times, when pick and shovel mining was in vogue, miners were often startled by the brilliant shower of sparks which flashed when their pick struck certain rocks in the dark mine

shaft. Although some of the not too hardy souls thought it a sign that 'the end was in sight,' scientists today recognize this phenomenon as triboluminescence.

"The hornsilver mines in Beaver County, Utah, are the source of a granular mixture of wurtzite and sphalerite which will not only give forth a splendid shower of sparks when scratched with a knife (best seen in a darkened room), but will also fluoresce brilliantly under illumination by long wave ultra violet lamps. Curiously enough, some specimens of this combination of minerals are of a brilliant apricot color, while other display a variegated pattern of shades of orange and green. Collectors will prize example of each type in their fluorescent collections."

**VERMONT**—About the oldest iron mine in Vermont is the one at Forestdale in Rutland Co., where limonite has been mined since 1810. Good specimens of manganite and molybdenite occur also in the mine.

**VIRGINIA**—We are indebted for the following item to William J. Foster, 3100 Lee Blvd., Arlington, Va.

"An item of interest is the discovery by Ned Blandford of McLean, Va., at the Virginia Lime and Marble Co., quarry near Zion Church (Mountford), Loudon Co., Va., of radiating groups of tremolite crystals in a greenish-gray serpentine-marble matrix. The individual crystals are massive; some of them about  $\frac{1}{4}$ " thick, and the radiated groups are up to one inch across."

**WASHINGTON**—In northwestern Franklin Co., Wash., on the north side of the Columbia River across from Hanford, loose 1" colorless selenite xls occur in the sand cliffs which have been eroded into fantastic towers and minarets.

**WEST VIRGINIA**—Nice little rock crystals, some so clear, lustrous and with sharp edges as to be called "diamonds," occur in a sandy clay soil near the top of a small hill near Parkersburg, Wood Co., W. Va.

**WISCONSIN**—Fred G. Knowlton, Gen. Del., Bayfield, Colo. (formerly of Wisconsin) sends in the following item:

"Clay stone sand concretions are found at Rufus Beach on Lake Superior, Wisc., about 2 miles east of Odanah, Ashland Co. From Highway 2, there is a road breaking off going north—then east—then north again to shore of Lake Superior. Leave car at top of bank and go east along shore about one mile. Watch in gravel in wash on shore—concretions come in balls and all kinds of freakish shapes.

"When one gets to where the concretions are on the shore, they may be found in lower parts of the high banks. The banks are mostly heavy red (feldspar) clay but near the bottom there is a streak of fine sand and it is in this strata that the concretions may be found."

**WYOMING**—B. J. Keys, Box 572, Worland, Wyo., sent R & M a number of fossil bones and gastroliths (gizzard stones) from the mountains of his state.

From the badlands of Washakie Co., 12 miles west of Worland, were 3 fossil tiger bones (dark purple in color), also a nice fossil tiger tooth (loose, dark purple and  $\frac{3}{4}$  x 3 inches in size).

From the mountains east of Worland, also in Washakie Co., he sent us about 100 gastroliths from a prehistoric bird. These gastroliths varied from tiny up to  $\frac{1}{2}$  x  $\frac{1}{2}$  inch in size and were mostly grayish in color. The most common was chalcedony (grayish, brownish, and almost colorless); red jasper; agate (gray-brown, banded); grayish porphyries, etc.

From the mountains east of Greybull, Big Horn Co., came a nice red dinosaur bone, 2 x 2 x 4 inches in size.

All these specimens were most interesting and especially the tiny gastroliths which were the first ever brought to our attention; the gastroliths that are well known to collectors come from the dinosaur, a huge reptile which once roamed Wyoming, many millions of years ago.

Albert L. Kidwell, Carter Oil Co., Box 801, Tulsa, Okla., sends in this contribution:

"While working on a field project this summer in Wyoming, I obtained good specimens of orthoclase and muscovite from a simple pegmatite being quarried on Casper Mountain, and specimens of chrysotile asbestos in massive serpentine, also on Casper Mountain, Natrona Co., Wyo."

**ALASKA**—Hugh McCrory, Good News Bay Mining Co., Platinum, Alaska, sent R & M four of the brightest and nicest little gold nuggets we ever saw. The nuggets were found in the placer diggings at Platinum. A note (dated September 29, 1950) enclosed with nuggets reads as follows:

"Enclosed are 4 small nuggets either for your collection or better still, pick out a nice stone, say onyx, 16 x 18 mm, and mount one of the nuggets on it. It will make a nice ring.

"Really not much news here. Winter in the offing. Expect to leave here late in October. Mail the Nov-Dec issue to Battle Mountain, Nev. May have a line or two for you around Christmas time. Hope you fix yourself up a nice ring."

**AUSTRALIA**—Superb reticulated crystals of cerussite, perhaps the finest known, have been found in the silver-lead mines at Broken Hill, N.S.W., Australia.

**CANADA**—According to a story in a recent issue of *THE GLOBE AND MAIL*, Toronto, Canada, a huge new iron mining empire is being built up in the province of Quebec. Right on the Labrador-Quebec boundary line has been located one of the biggest iron ore deposits ever discovered. To date sufficient ore has been found to produce annual shipments of 10,000,000 tons until probably the end of this century. And they're still finding more. The center of the iron fields is Burnt Creek, a womanless, shopless little frontier town. (See "Huge ore discovery in Canada," R & M, Sept-Oct., 1948, p. 806).

**CYPRUS**—Asbestos (serpentine) is mined in the Troodos Mountains of Cyprus by the Cyprus Asbestos Mines, Ltd.

whose working is the Amiandos mine. Some nice specimens of asbestos have been found.

**DUTCH GUIANA** — Cinnabar, in rounded reddish pebbles, are found 100 kilometers southwest of Paramaribo, Dutch Guiana. Hugh A. Ford, 110 Wall Street, New York 5, N. Y., had a number of them recently.

**EGYPT**—Black xled cassiterite come from the Igli mine, Eastern Desert, Egypt.

**ENGLAND**—The following item is taken from the U. S. Bureau of Mines MINERAL TRADE NOTES, July, 1950, p. 34:

"The recent discovery of the Allendale Metalliferous Mining Co., which was formed in June, 1949, of what is considered the richest veins of fluorspar in Great Britain may mark the opening of a new industrial era in the Allendale district. The Whitewood and Barney Craig veins are reported to run in great vertical strips of 6 to 14 feet through faults in the earth in the Coalcleigh mine.

"As a result of the discovery, the company has taken a 21-year lease on 9,000 acres of Allendale and Alston fell lands and will explore the possibility of reviving the mining industry which a century ago is reported to have provided Europe with a tenth of its lead.

"An output of 100 tons a month of almost pure fluorspar is expected.

"When the Coalcleigh electrification system is completed, attention will be given to the abandoned workings at Allenheads, Northumberland County, where other rich deposits of fluorspar have been discovered. Other plans are reported for the reopening of some of the other workings where fluorspar was ignored as valueless several centuries ago when searching for rich lead deposits. (Consul Harold D. Pease, Newcastle-on-Tyne)."

Let us hope that some more of the beautiful fluorite (fluorspar) crystals which the lead mines of northern England made famous, may soon be on the market for collectors.

**GIBRALTAR**—A 7-ton specimen of limestone, from Gibraltar, has been sent to Toronto, Canada, for display at Canadian National Exhibition. The rock is a gift of the British Government.

**HAWAII**—Fine specimens of milky-white common opal, and nice specimens of grayish chalcedony, both from Molokai Island, Hawaii Islands, were recently obtained by John S. Albanese, P. O. Box 536, Newark 1, N. J.

**INDIA**—The following note is taken from the U. S. Bureau of Mines MINERAL TRADE NOTES, June, 1950, p. 38.

"The occurrence of massive bluish kyanite in association with a peculiar type of pinkish corundum is characteristic of the Mavinkere area, Hassan District, Mysore State, India. The kyanite zone has been proven to be over 880 yards, with a width ranging from 200 to 600 feet, with several heavily folded outcrops. Kyanite occurs in lode form with an average thickness of 40 feet in the exposed area." The deposit is being mined.

**JAMAICA**—The following paragraphs are also taken from the U. S. Bureau of Mines MINERAL TRADE NOTES, July 1950, p. 48.

"A systematic geological survey of Jamaica is to be undertaken, according to a report made public by Dr. V. A. Zans, Government geologist.

"The Jamaican public has been asked to contribute toward the survey by forwarding to the Department of Lands samples of minerals giving the exact location where they were found, the depth from which they were taken and an idea of the quantity to be found in the area.

"The future development of the Island's mineral resources can be based on the results of this survey.

"In 1865 the first complete geological map of Jamaica was published. Despite later revisions and a complete remapping of a small part of the island, this map has been the basis for all research, academic and economic, up to the present time.

"All the refinements of modern geological technique will be employed including the study of aerial photographs, borehole records, etc. Special attention will be paid to economic geology.

"Particular attention will be paid to locating metalliferous mineral deposits—copper, lead, zinc, iron, and other ores. The mapping and assessment of the gypsum deposits is of great importance and has been given high priority.

"Specimens of all types will be collected and after examination will be used to build a representative geological collection in the museum of the Institute of Jamaica.

"The program is an ambitious one, but because of its urgency, it is planned to complete it by October 1956. Whether this is possible will depend to a large extent on the cooperation of members of the public. (Consul General Nelson R. Park, Kingston, Jamaica)."

Jamaica is a British possession in the West Indies.

**NORWAY**—Gunnar Bjareby, 147 Worthington St., Boston 15, Mass., sent in the following bit of information:

"A mineral collector Friend in Norway just mentioned briefly (in a letter) that two years ago a large crystal of beryl was quarried in Aveland (Iceland) Norway. It weighed nearly 7 tons (metric)."

**NEW ZEALAND**—A small but finely xled sulphur specimen was obtained recently from John S. Albanese, Box 536, Newark 1, N. J. The locality for the specimen is White Island, Bay of Plenty (North Island), New Zealand. A note from Mr. Albanese accompanying the specimen reads: "I think it is a fine piece, as the xls are minute but excellent. It was sent me by an English collector."

**WALES**—Howard V. Hamilton, 187A Franklin Avenue, Vandergrift, Pa., sent in the following item:

The British Ministry of Supply has announced the discovery of a large de-

posit of uranium ore in Northern Wales. Although they warn it's of "extremely low yield," it is estimated at close to a million tons, which, if accurate, would be the largest single deposit discovered in the British Isles. (CHEMICAL AND ENGINEERING NEWS, September 11, 1950).

#### **Hurt in Mine Accident!**

Editor R & M:

Enclosed you will find \$3.00 as renewal payment for another year of R & M.

I am now in the hospital due to being hurt underground in the iron mine in which I work.  
Lawrence Eddy  
Ironwood, Mich.

September 26, 1950

#### **Our Restless World**

This is not the title of an article nor a book but of a catalog listing a series of educational geological slides put out by W. Scott Lewis, 2500 N. Beachwood Drive, Hollywood 28, California. It features 1. **EROSION** (rock weathering, erosion by streams, sub-surface waters, glaciers and glacial erosion, wind erosion and deposition, marine erosion and deposition). 2. **VOLCANOES and VULCANISM**. 3. **DIASTROPHISM**—bending, faulting and earthquakes.

A 30 page summary of geological information with listings of 294 slides and a 50c credit slip—price 50c.

#### **General Mineral Catalog**

Minerals Unlimited, 1724 University Avenue, Berkeley 3, California, released in September, 1950, their New General Mineral Catalog. It contains 32 pages with cover and lists alphabetically choice mineral specimens from the world's foremost localities. Many items will intrigue you, be you a beginner or an advanced collector. For beginners, there are chalcopyrite, chromite, chrysocolla, etc.—for advanced collector, calaverite, catapleite, and clinohedrite—just to mention a few at random.

Have you specimens from such localities as Cyprus, Dutch East Indies, Philippines? The catalog lists calcite (Philippines), copiapite (Cyprus), quartz (Dutch East Indies).

The catalog is free so send for your copy today.

#### **Tough on the Magazine!**

Editor R & M:

Am enclosing my \$3.00 for renewal of R & M for another year. I couldn't get along without the magazine and practically wear out each issue before the next one comes.

Miss Gertrude M. Hannen  
Chicago, Ill.

October 3, 1950



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## IN MEMORIAM

JOHN H. BRODRICK

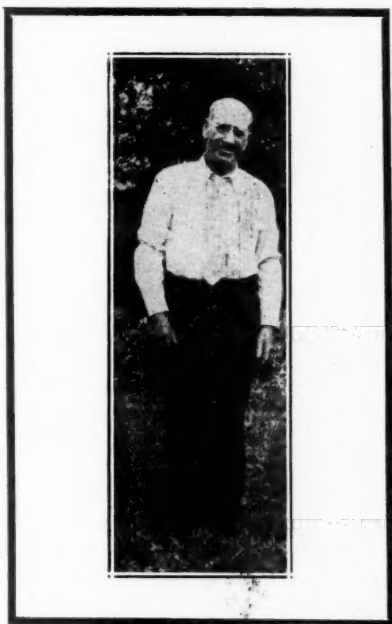
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Passed away Sunday, August 13, 1950, of a heart ailment in his home at 17 Forrest Street, Clinton, Mass., at the age of 76. He was born in Manchester, N. H., and moved to Clinton when a small boy and has lived there ever since. He is survived by four sons, three daughters, a sister and nine grandchildren. He was secretary of the Old Timers Mineral Club and a member of the Worcester and Boston Mineral Clubs, and a well known collector. His collection of Chistalolites was considered to be one of the largest in the world, one of the stones being so rare that he very seldom exhibited it, and so far as is known, there is no other like it. He sliced a piece from it and presented it to Harvard University. He started to collect these stones at the age of 14 years, and had been searching for them all of his life until he became ill, when he had to give it up. They are found in the ledges at Lancaster and Sterling, Mass., and only a few other places in the world.

Several years ago, he and eight other collectors got together and formed the OLD TIMERS MINERAL CLUB for the purpose of exchanging minerals and information; from that day both his collection and the Club grew. The Club now has over 200 members and his collection is a wonder to look at, filling an entire room and representing practically the entire world.

He was a grand little guy, and will be mourned by his many friends and associates, both professional and amateur.

I first met him in 1919 when I visited Clinton for the first time; he returned the visit in 1920. I did not see him again until 1937 when I again visited Clinton, I saw him every year after that until the war years of 42-43 and 44. I saw him again every year after the war. We took field trips into Maine, and Vermont, and of course, Lancaster, Mass. We visited the old limestone quarry at Bolton, Mass., where a new mineral was found by him and now bears his name, BRODRICKITE. My last visit was for his funeral; he looked



JOHN H. BRODRICK

so happy and contented in death that I could not feel sorry for him. He has gone to meet his beloved wife who preceeded him 20 years ago.

A fitting memorial to this grand little guy, would be a monument quarried from the ledges of Lancaster, where he spent so many happy days.

Fred R. Klink  
1440 Bryan Ave., S. W.  
Canton 6, Ohio

## CORRECTION APPRECIATED!

Editor R & M:

The article on sand in ROCKS AND MINERALS (Sept-Oct, 1950, p. 488) was very enjoyable. However, I must take exception to one statement in your paper, namely, that greensand is of organic origin. If, by greensand, it is referred to glauconitic sand, it has been pretty well proved that glauconite is an alteration product of biotite mica. The alteration takes

place on the sea bottom subsequent to the deposition of the mica.

Now about the oil sand—alcohol is not a very good solvent of hydrocarbons. Better try carbon-tetrachloride, ether, chloroform, carbondisulphide or benzene or better yet a soxhlet extractor.

Carlton M. Carson  
Ventura, Calif.

## MINERALOGICAL SOCIETY MEMBERS VIEW DISPLAY OF SUMMER'S BEST FINDS

Members of the North Jersey Mineralogical Society were surprised on entering the Paterson Museum for the first meeting of the fall, to see the changes being made in the exhibit room.

The high center display cases had been removed and the assembly space doubled. However, by the time President William Aitken of Westwood called the meeting to order, all available seats were filled and the staircase was again being used by late comers—a few people even standing in the entrance.

Exhibiting members had placed their best mineral finds of the summer on the large table fronting the audience and were waiting to tell their collecting experiences.

Lester M. Clutterbuck of Teaneck was called first, and gave a humorous account of his 5,000-mile trip around Oklahoma, Ohio, Kansas, Missouri, Colorado and points between.

He had specimens which included celestite from Clay Center, Ohio, big calcite crystals with spalerite and dolomite from Joplin, Mo., double terminated orange calcite from Monroe, Mich., barite from Sterling, Colo., pyrite on tetrahedrite, Park City, Utah, large purple crystals of fluorite from Rosiclare, Ill., and astrophyllite from St. Peter's Dome, Colo.

### Specimens Near Home

Gene Vitale of Haledon, N. J. gets first class specimens nearer home. He exhibited a large block of local stilbite, apple green prehnite, unusual laumontite, stilbite and anhydrite on agate, and amethyst covered with small crystals. From Franklin, N. J., a very fine piece of rhodonite, also foliated zincite and a rare form of red fluorescent calcite. He also had a quartz geode from Easton, Pa., and golden beryl and black tourmaline from Slocum Quarry, Conn.

William Aitken displayed a large white polished block of agate and cacholong—a variety of opal. This block had beautiful oblique lines of iron oxide, maroon in color, and came from Prospect Park, N. J.

W. H. Hayes of Irvington showed caldonite on quartz from Darwin, Calif., linarite with malachite from San Bernardino, Calif. A specimen of brilliant azurite crystals from Bisbee, Ariz., Paterson prehnite showing three sceptre casts and a block with perfectly shaped crystals of wolframite—a pseudomorph after scheelite, from Trumbull, Conn. A steel-gray block of muscovite with curved plates from Branchville, Conn., and his most interesting find—a slightly milky quartz which when cut shows a distinct star.

Virginia J. Nebiker of Hawthorne had vacationed around New York State and Canada and showed a specimen of a Herkimer "diamond" in matrix from Little Falls, N. Y. She also had loose crystals of this lovely quartz and garnets of good color, one inch in diameter from Worthington, near Sudbury, Ont., Canada.

### Tough Question

Herman Grote of Newark brought an amorphous specimen of limonite (bog iron) yellow ochre pigment from Somerville, N. J. Louis Reamer of Orange told an interesting story of New Year's Day, 1937, when he answered a young boy's questions regarding minerals and the phenomena of their fluorescent quality.

Recently this same fellow called at Reamer's home and told him that he was stationed near a spot in the Fox River bed, Mo., where quartz crystal-lined geodes were scooped by the shovelful. Reamer had just received a huge box of them and showed several containing calcite crystals. That posed the question as to "why calcite in quartz geodes?" The answer is "tabled" for the present.

Warren L. Duncan of Hackensack gave a description of his one suit case and handbag trip around Europe and his determination to bring back a rock specimen of each historic spot that interested him. The specimens included chalk from the White Cliffs of Dover, chalk-covered flint from England's cliffs; flint from the Battlefield of Hastings, flint from the graveyard of Stoke Poges, made famous by Grey's "Elegy."

Jet from Whitby, England, brown coal, the type used in Germany, a blown off piece of Cologne Cathedral, a specimen from Marie Antoinette's palace, bauxite from Marseilles, basalt from a trip up the Jungfrau, feldspar from a porcelain factory at Munich and numerous other bits were included.

#### Marble Collection

Mr. Casperson, curator of the Paterson Museum, made three trips to Maine this summer. He spoke briefly of the collection of marbles displayed in the Proctor Museum, as being well worth seeing. He had on exhibition minerals which he collected, the principal being a large specimen of feldspar crystals of the variety valencianite, a large crystal of orthoclase, pollucite, amblygonite and a specimen of golden prehnite from a road cut in Maine. To our surprise, green is not the natural form of prehnite. The natural color is yellow or white. When colored by blue chlorite it makes the green color so well known around Paterson, N. J.

Mr. Casperson also reported on the June outing. Twenty members spent two days around Haddam Neck, Conn., quarries finding mangan-apatite with traces of scheelite, hyalite, beryl and mica.

Albert White, president of the Newark Mineralogical Society, told of the 15 Newark society members who spent a week in New England visiting well known quarries.

He mentioned the paper prepared by the Millsons father and son, entitled "Observations on Exceptional Duration of Mineral Phosphorescence." Copies can be ordered through the society if one is interested.

The next regular meeting of the N. J. Mineralogical Society will be held at the Museum, 268 Summer Street, Paterson, N. J. on October 12. All are invited to come and see why people travel miles to attend these meetings.

—Paterson Morning Call  
Paterson, New Jersey

Monday, September 25, 1950

## U. S. CIVIL SERVICE OPPORTUNITIES

### COMMODITY INDUSTRY ANALYST (Minerals)—\$3,450 TO \$6,400 A YEAR

The United States Civil Service Commission has announced an examination for Commodity Industry Analyst (Mineral) for filling positions in the fields of ceramics, coal, iron and steel, mineral resources (foreign), minerals (general), nonferrous metals, nonmetallic minerals (except fuels), and petroleum and natural gas. The salaries range from \$3,450 to \$6,400 a year.

Most of the positions to be filled from this examination are in the Department of the Interior and involve important work connected with the regular continuing activities as well as those directly concerned with the national defense program, principally in the Metals and Mining Administration, the Petroleum Administration for Defense, the Bureau of Mines, the Geological Survey, and other segments of the Department of the Interior. The positions are located in Washington, D. C., and throughout the United States. Certain positions in other government agencies in Washington, D. C., and vicinity may also be filled from this examination. Positions abroad involving similar duties and requiring similar qualifications are, generally, not subject to civil service requirements. However, agencies may, if they wish, fill such positions from this exami-

nation.

To qualify, applicants must have had from  $3\frac{1}{2}$  to 6 years (depending on the grade of position) of experience of a technical, scientific, or administrative character relating to one or more of the fields of work included in this announcement. Part of this experience must have been of a specialized nature which may have consisted of analytical report work dealing with practical production, distribution and consumption problems in connection with one or more of the optional fields; college teaching of appropriate subjects, supplemented by field work and report writing; or technical advisory service relating to minerals. Appropriate education may be substituted for all of the experience required for positions paying up to -4,600 a year and for part of the experience for higher level positions. No written test is required.

Full information and application forms may be secured at most first and second-class post offices, from civil-service regional offices, or from the U. S. Civil Service Commission, Washington 25, D. C. Applications will be accepted in the Commission's Washington office until further notice.

## TWO HOBBIES

By H. H. PERKINS

358 Adelphi St., Brooklyn 5, N. Y.

About the year 1884 when the writer living at that time in Vineland, N. J., and was 12 years old, he became interested in collecting minerals and American Indian relics through the efforts of a learned and scientific neighbor.

In the vicinity of Vineland there was hardly anything in the mineral line to interest a collector. There was plenty of white quartz sand and when this was washed it was used by the Millville and Bridgeton factories in making glass. Some clay deposits, a quarry or two of a poor grade of conglomerate composed of quartz pebbles with a soft iron ore binder, were also in the area.

Quartz pebbles were numerous around Vineland with now and then a small sandstone boulder.

Also could be found many small argillaceous concretions with inclusions of small fossil shells and coral and the writer found two small trilobites imbedded in such pieces.

Along the streams in the southern part of New Jersey where the ground had been ploughed, almost always could be found small chippings of such stones as common quartz, jasper, flint, chert, marl rock, and even agate. These chippings, no doubt, had been left there by the Lemi Lanapé Tribe of the Delaware Indians as, these types of stone are nowhere to be found in that vicinity. Wherever those chippings were found we were sure to find also an arrowhead or two, sometimes perfect ones but generally broken ones. The finding of the small arrowhead, now called a bird point, where they had become exposed on the ground and stood out in bold relief like a little cap stone in a small mound, made looking for them very interesting.

The writer in arranging some of these bird points of a triangular shape with concave bases found that they could be placed so that these bases would form a very good circle and this gave him the idea to collect more and arrange them into conventional designs such as stars,

scrolls, snowflakes, etc. As this progressed he found out that by combining the different sizes and shapes of the arrowheads, it was possible to assemble them into various interesting designs such as portraits (five were made of his wife and one of Princess Atalie (the late Will Roger's cousin), head on a nickel, Indian chiefs, Indian girls, four eagles, two framed on glass to show beauty of material by transmission of lights through points of opal, agate, obsidian, etc. One frame represents "Hail to the sunrise" and another "Appeal to the Great Spirit." Two just of ceremonials, and altogether over 50 framed under glass.

One of the designs in opal points took 8 years to collect and assemble.

In nine of the designs, many semi-opal points have been used and most of these give a variable fluorescence through short and long wave ultra-violet rays. The long-wave—GE-EH4 and radarlite—will fluoresce right through the glass but with the short wave the design has to be removed from the frame. The milky opal and the precious opal will phosphoresce as well as fluoresce.

In addition to Indian arrowheads, the writer is interested also in fluorescent minerals and he has made many fluorescent designs by working right over some ordinary picture or printed figure, as he believes that any color made with paint can be duplicated with fluorescent minerals. Some minerals, such as the Texas calcite, will fluoresce a variable gradation that is beautiful and some of the Franklin, N. J., red calcite takes on a velvety sheen.

To get a beautiful flesh color by fluorescence, pulverize some white scheelite, cream or light yellow scheelite, red or pink calcite, and African sphalerite. Mix them together and then put on a chemical non-fluorescent base that is tacky enough to hold it and then brush off the surplus—a flesh color from white to a deep tan can be imitated.

Some fluorescent minerals will, when pulverized, lose most of their fluorescence. One of these minerals is fluorite. Some others, such as calcium-larsenite, will kill the fluorescence of another min-

eral when placed alongside of it.

Beautiful plaques can be made like a kaleidoscopic view by placing and cementing polished fluorescent pieces together in an artistic manner.



"Stone" picture of a Cheyenne Indian made by H. H. Perkins. Arrow points of opal and semi-opal from Nevada, Oregon, and Oklahoma were used for the picture. These arrow points fluoresce under both short and long wave lamps.

## COLORADO SPRINGS MINERALOGICAL SOCIETY AIDS PIONEER MUSEUM

By RUTH V. WRIGHT, Sec., C.S.M.S.  
Box 722, Manitou Springs, Colorado

In March, 1950, the PIONEER MUSEUM of Colorado Springs, Colorado, received a very interesting and valuable collection of mineral specimens from the Stratton Estate. This was the collection of Winfield Scott Stratton, who received the title "Midas of the Rockies." Stratton, one of the wealthiest mine owners of the famous Cripple Creek Region, discovered his fabulous mine in a most unique manner. He had been prospecting in the region, and one night dreamed that if he would return to one of his diggings, there he would find the ore he had been seeking. He did return, on the 4th of July, and there located the vein which created one of the wealthiest Cripple Creek mines, which he promptly named, the Independence.

Unfortunately, the collection, which included specimens from his Independence Mine, was not labeled or described. Realizing that the collection would be valuable to the public only if properly identified, Miss Dorothy E. Smith, Curator of the Pioneer Museum, requested assistance of the Mineralogical Society. Several members hastily gathered to attack the interesting but difficult task of sorting, labeling, and identifying the valuable collection.

Mr. Willet R. Willis, president of the Society, and Mr. Timothy Anglund cleaned and sorted the specimens, while Prof. Richard M. Pearl, assisted by his wife, (who is not shown in the picture) labeled and numbered them, and to complete this "assembly line" task, Mr. Willard W. Wulff and Mr. O. A. Reese placed them in their case, arranged to form the most impressive display possible.

The specimens were found to consist mostly of gold and silver telluride ores, characteristic of the Cripple Creek Region, and as one would expect of a mine owner's collection, many of the richest specimens had been roasted, and the tellurides thereby decomposed to be replaced by bubbles of gold.

The case in which the specimens are displayed deserves mention. Mr. Stratton had the case especially created for his collection by Fred Ege, pioneer cabinet maker of Colorado Springs. For the case, Mr. Ege imported fine mahogany woods, and carved the cabinet in four separate pieces. The top of the 81/2 foot cabinet is intricately carved with little burros, bears, prairie dogs, a fox, a mine windlass and some miners. Below the carving is display space for the fine collection, and below is drawer space, here one discovers that each little door and drawer is opened by a separate key, and included here are numerous little secret compartments.

Interest, stimulated by the collection, has resulted in three meetings of the Society being devoted to the Cripple Creek Region. The first, in June, was presented by Mr. Carl Mathews, who addressed the Club on "Ores and History of the Discovery and Mining of the Cripple Creek Region." Mr. R. G. Colwell directed the July meeting, speaking on the subject, "The Mills and Milling of the Cripple Creek Ores." Prof. Richard M. Pearl, of Colorado College, presented the last in the series, "The Geology of the Cripple Creek Region." The Society hopes to close the lectures with a field trip to the region soon.

### Was a Fine Show!

Editor R & M:

On behalf of myself and The Columbian Geological Society, Inc., of Spokane, Wash., I thank you for your splendid cooperation in advertising in your magazine the recent convention of the Northwest Federation of Mineralogical Societies.

We feel we had a fine show and are looking forward to the big get together at Tacoma, Wash., in 1951.

P. N. Brannan  
Convention Chairman  
W. 1414 York Ave.  
Spokane 12, Wash.

September 12, 1950





At work on the Stratton Collection. Left to right—Willet R. Willis, president of the Colorado Springs Mineral Society; Timothy Anglund; Willard W. Wulff; O. A. Reese; and Prof. Richard M. Pearl of Colorado College.

Photo by Stanley L. Payne  
Gazette Telegraph, Colo. Springs, Colo.

## OUR 1950 SUMMER ACTIVITIES

By E. LAWRENCE SAMPTER

49 West 45th Street, New York 19, N. Y.

My wife and I had a very disappointing Summer, as far as fine new collector's crystals are concerned, but again covered Oxford County, Maine, mineralogically and otherwise. It was another year that demonstrated what I have said and experienced before, namely that fine outstanding crystals are getting more and more difficult to acquire.

Visited 9 different quarries many times and called on 8 mineral dealers, as well as the wonderful New York State museum, in Albany and the Pratt museum of Amherst College. Collected with our club members Victor Pribil, T. Orchard Lisle, Dewitt Gutman, H. A. Mitchell and the Newark Mineral Club, in Maine.

New acquisitions for the past year, worth mentioning, are: rose quartz and beryl from Bumpus; tourmalines from Black Mt., and Mt. Mica; large garnets from the lower Wardwell pit; a fine apatite and very unusual group of large tabular quartz crystals from Sugar Loaf; vesuvianite from Eden, Vermont; fluorite from Belvedere, Ill.; uvarovites from Cuba and some gold crystals from California.

Only five quarries are being worked this year in Oxford County, Maine, for feldspar, which seems to be scarce, for the better grades. Scrap mica is one by-product and beryl is still the real money maker.

### Bumpus Quarry

The old Bumpus quarry, 8 miles South of Bethel, Maine, famous for its large deep blue beryl crystals, is the outstanding place that is being operated now. It is producing large quantities of the finest grade of pure feldspar, beryl, mica and the largest quantity and finest rose quartz known, in the Eastern United States. It is being very intensively worked by Dana Douglas and his men. Two big blasts a day are the usual occurrence. The beryl crystals come out in fractured pieces and the rose quartz is all bought up by Mr. Perham. While one can find black tourmaline, mica, garnets, autunite, cookite,

etc., few good collector's crystals were obtainable there.

### Mt. Mica

Mt. Mica, near Buckfield, Maine, is also being worked for feldspar, after many years of idleness. No new pockets have been exposed like the one last year, that produced the rare white beryl crystals, made famous by Professor C. Hurlbut of Harvard. Plenty of small green tourmalines are still to be had from the old dumps, by intensive digging. We were there for a blast that showered us with rocks and broke the windshield of the car next to ours. Fortunately we were very lucky in escaping any damage.

### Other Quarries

Other working quarries this year are near Greenwood and the old Berry place near Buckfield. Joe Pechnic is hard at work looking for good feldspar in new localities and is now concentrating on the Stearns farm, past the pump house, near Hunt's Corner, Me. Newry and the Wardwell quarries are idle this year, but still a mecca for mineral collectors. There are good prospects of Black Mt. being mined soon. It is well known for its lepidolite, rubellite and watermelon tourmalines.

### Fossils

We did take an interesting fossil hunting trip with paleontologists from Amherst College, to the John Boyd Thacher State Park, near Albany, N. Y., where one easily finds large quantities and many varieties of the finest Devonian invertebrate fossils, in the Helderberg mountains, along the road side.

Enjoyed our annual visits again to Howard Irish, Bickford, Charley Marble, Hamonneau, Ford, Perham and Schortmann's. Unfortunately we did not get to see our good friends, Ike Skillin and the Putnams, this Summer.

The tragedy of the year was the untimely loss of Professor Vincent Shainin, of the University of Maine. He was killed in a helicopter accident in Alaska, where he was working for the U.S.G.S. Vincent was an expert on pegmatites. He had

completed an excellent article and map of Newry, which should be published soon, and written many articles on Maine pegmatite localities and other subjects. His passing is a great loss to his family and friends, as well as to the mineralogical and geological community.

#### Schortmann's

The Schortmann brother have rebuilt their mineral shop and made a beautiful job of their modern display shelves and their new fluorescent room. They should be a must on the visiting list for all collectors that can get to Easthampton, Mass. Ray Schortmann, as curator of the Amherst College museum, is still developing fine new arrangements for specimens and making many new educational displays. He is also teaching lapidary work to the students, as a spare-time activity and hobby, for them to enjoy.

#### Perham

Mr. Perham has made himself the rose quartz king of the East and has over 300 tons from Bumpus around his shop. He

buys the entire production of that quarry and sells it from 10c a piece up, according to size and color. Its beautiful shade of rose makes a fine eye-catching display for passing motorists. He has faceted stones cut out of the deeper colored clear pieces.

His latest venture is the purchase of Noyes Mt., or the "Harvard Quarry," where he expects to blast and allow collectors to have a "field-day" looking for purple apatite and tourmalines.

He has also acquired a fine collection of crystals that came from Newry, consisting of very large columbites, rose quartz crystals, etc., as well as a large lot of aquamarine and tourmaline from various Maine localities, for cutting material. Mr. Perham has a most unusual collection of pollucite consisting of specimens collected from each of the Maine localities that it has ever been found in.

So another Summer passed with few good new specimens, but with the usual enjoyable mineralogical activities.

## COLLECTOR'S COLUMN

Conducted by A. CAL LECTOR

This column, which began with the Sept-Oct., 1948, issue is of special interest to beginners in mineralogy as we comment briefly on one or more of the common minerals. In the last issue we talked on chromite. This time we will discuss chrysocolla, a minor source of copper.

#### Chrysocolla

Chrysocolla is a secondary mineral, that is, it is formed by the alteration of other copper minerals. It occurs with other secondary copper minerals in the upper sections of copper veins. The common color is bluish-green, but this often varies to brown or black due to impurities such as the oxides of iron and manganese. In the pure state, chrysocolla is a hydrous silicate of copper, and is considered by some to be a mineral gel. It occurs filling seams and encrusting, often with an enamel-like texture. It also occurs in an

earthy form. It has been reported as microscopic acicular crystals from Mackay, Idaho.

Fine specimens come from Katanga in the Belgian Congo. The copper mines of Cornwall and Cumberland in England, the Ural Mountains of Russia, and the large copper deposits of Chile produce interesting specimens. There are a number of localities for chrysocolla in United States. Fine specimens come from the Clifton-Morenci district, the Globe district, and the Bisbee district all in Arizona. It is also found in the Tintic district of Utah.

Chrysocolla is sometimes used for ornamental purposes or cut as charms or pendants.

Your favorite dealer carries chrysocolla specimens in stock, so why not add a good specimen to your collection today?

## REPORT OF THE OUTING OF THE NORTH JERSEY MINERALOGICAL SOCIETY—JUNE 24th AND 25th

SUBMITTED BY ONE WHO WAS THERE

FLORENCE HIGHT, *Secretary*

It was a cloudy morning on June 24th, when the members of the North Jersey Mineralogical Society left the Paterson Museum for their field trip of the year 1950. The feldspar quarries around Had-dam Neck, Connecticut were selected as the objective of the two-day trip.

The trip through Connecticut was without incident and was enjoyed for its beautiful country vistas as well as the anticipation or dreams of collecting beautiful clear crystals of beryl or tourmaline.

By experience we learn that collecting minerals is altogether uncertain. The greatest success in the long run comes to those who are persevering and who work, but often good specimens pop up unexpectedly, and the new collector has just as good a chance of finding something nice as the old prospector.

The thrill of such a find came to Mr. Robert Nebiker when he picked up a large beryl crystal right off the ledge of rock. The crystal was about six inches long and 2½ inches across. Miss Virginia Nebiker also got a thrill when she found a small but double-terminated quartz crystal with green tourmaline crystals on it.

Our congenial vice-president, Henry Mullner, pulled out a nice beryl crystal also. The Curator of the Paterson Museum, William C. Casperson, had long wished for a really good specimen of mangan-apatite and surprised himself when he cracked open a boulder and found therein the specimen of his dreams.

Well, there were lots of specimens collected that day, some good and some not so good, and some collected to await the evening test, when Mr. and Mrs. Mullner were to test them with their mineralite for fluorescence.

So, when night came and it grew dark, we all gathered on the porch of the cabin occupied by the Mullners and after a heavy thunderstorm which blew out some

transformers so that we couldn't have coffee on account of there being no water because the pumps wouldn't work—however, the transformers were fixed after a time, and the light went on and we didn't need the candles any more, and it was nice and cool and the dinner was just fine in the little restaurant and everybody said they ate too much—but, as I was saying, after it was dark enough the collectors dumped their minerals on the floor and Mr. Mullner put his mineralite on them and what a surprise we all received to see so many of the specimens beautifully fluorescent. There were specimens of mangan-apatite an orange yellow, hyalite a yellowish green, and a beautiful blue fluorescence of some specimens which appeared to be scheelite.

Mr. Joseph Skaritz and Miro Bianchi, who bunked together that night, said that they had found a new quarry never seen before by mortal collectors, and showed some specimens to prove it, one of which was a beautiful specimen of fluorescent hyalite.

That decided our movements for the next morning, so to this new quarry we went. Here it was that Mr. Mullner and Mr. Nebiker found their beryl crystals.

Mr. Mullner took some colored shots of the quarry and the group, and if that picture of the side of the mountain covered with gorgeous mountain laurel all out in bloom, comes out, it will be a picture everyone should see.

In this new quarry there was a fine example of pegmatite dyke formation which the Curator pointed out. The foot wall was there in the solid base rock and the hanging wall, which had been pushed aside from the base rock by the dyke of lava and folded while hot, showed very plainly. Between them was the dyke of feldspar pegmatite formation, having been forced upward from below.

It was this feldspar dyke which had been mined for commercial use, which left the foot wall and folding wall standing beautifully exposed.

Rose quartz was also found in this quarry, and the Curator secured an interesting specimen of mica schist which Mr. Nebiker kindly offered to bring in his car, to help fill up the museum some more.

Ferdinand Askera and Richard Huber tore into the dumps at the Gillette Quarry for gem crystals of tourmaline and beryl. They threw away almost everything else because they wanted cutting material.

The day was hot and Mrs. Louise Borgstrom forgot she had a gallon of lemonade in a thermos jug until we were pretty well overcome, but she revived us in good time.

Mr. and Mrs. Wilms were there with the children and Mrs. Wilms tells me they all enjoyed the trip very much.

One feature of the trip which proved to be of great historical interest was a visit to the old cobalt mine at Cobalt, Connecticut. This mine was operated before the Revolutionary War and furnished considerable cobalt which was shipped largely to England. It was used principally in the coloration of glass.

The site of the mine is now a state park. The old mine shaft is still in evidence as a deep hole which is surrounded by a fence. We visited the mine tunnel and the masonry foundations of the mill where the ore was processed. The extent of these foundations indicates quite an extensive operation.

From the cobalt mine we visited the Schoonmaker and Strickland quarries where we stayed only briefly, and then late in the afternoon wended our way home.

Altogether, it was one of the most enjoyable trips ever taken by the society.

#### **Our Youngest Subscriber.**

Joanne P. Lytton, 9 years of age (4th grade) is one of our newest and youngest subscribers. Her father writes us that she has shown considerable interest in collecting. "She is not yet in a trading posi-

tion and whether or not she will be, remains to be seen. However, if any other young subscribers do write her, I'll get her to answer and from then on let nature take its course," he further tells us.

In case subscribers may like to write to the little miss—words of encouragement from adults would be most helpful—address her as follows: Miss Joanna P. Lytton, 128 Price Street, West Chester, Pennsylvania.

#### **Wants to Form a Geology Club!**

Editor R & M:

We are much interested in forming a geology club here in southeastern Iowa. We are located in the heart of the well known geode area and have been instrumental in obtaining and the naming of a State Park and Lake (1628 acres and named for the Geode), 6 miles south of New London, Iowa.

We liked the idea as adopted by the Duluth Geology Club, as mentioned on page 398, July-August, 1950, R & M. Possibly there are clubs of this nature in southeastern Iowa but if so we have not heard of even one. If you or any reader of R & M knows of such a club will you please let me know?

E. N. Smith  
New London, Iowa

August 28, 1950

#### **Never Too Late to Begin!**

Editor R & M:

It is hard for me to explain the pleasure I get out of reading R & M, also the pleasant hours I spend studying and looking over my minerals. One of the several mistakes I have made in my life was not taking up minerals as a hobby when I was a kid.

J. M. Howell  
Gary, Ind.

October 9, 1950

#### **Likes It This Way!**

Editor R & M:

As one subscriber says, "I hasten to renew the subscription to R & M lest I miss an issue of your most interesting magazine."

I would like to tell you that I miss receiving R & M each month, but it is now bigger and better and very satisfactory. My husband and I enjoy reading it so much, i.e. the articles by amateur and advanced collectors, the Micro-Mounter (we have a Spencer binocular), the ads, and everything. We read it from cover to cover, also repeat on some. In a way, I like it better this way as it gives time to read other monthly magazines which do come in bunches, it seems to me.

Elizabeth B. Birchall  
Philadelphia, Pa.

October 13, 1950

## MINERAL SHOPPERS' GUIDE

By **CHARLES A. THOMAS**

706 Church Street, Royersford, Pa.

Note: This department will appear from time to time to help prospective buyers select mineralogical materials which are advertised by reliable dealers whose advertisements appear steadily in these pages. Old Timers and new dealers are invited to send small samples of mineralogical specimens, small appliances, or whatever, for first-hand examination, the results of which will be paragraphed in this column. Items will be returned if requested and if sufficient return postage is sent with the material. Heretofore not advertised specimens will be examined also. Identification of specimens will not be attempted.

The M. S. G. (Mineral Shoppers' Guide) has examined polished slabs of western and southwestern agates made from the same material advertised by Garden State Minerals whose ads and address is to be found elsewhere in these pages. These agates are superb! One slab in particular, looked like a pool of clear water with submerged water plants growing toward the highly polished surface . . . plume agate of the best.

Crystal lovers may wonder just what Minerals Unlimited has to offer in quality at such low prices. Note that so few offers exceed \$5.00. Take it from the M. S. G. that Minerals Unlimited send exquisite material. A libethenite specimen from this advertiser, is just about tops. A large shipment from this dealer would startle an old timer, to say nothing of starting a beginner off on the right foot. Minerals Unlimited advertise extensively in these pages, but that is not the reason for the forgoing. We want to help the buyers.

The M. S. G. is very partial to, but not exclusively interested in Fluorescence. We cannot help but recommend the short and long wave light sources as advertised in these pages. For the present, we will

mention lamps manufactured by fluorescence experts. In the short wave field the new SL2537 MINERALIGHT is one of the most efficient sources of short wave ultra violet radiation. It is plainly the result of know-how and patient research in short wave U.V. application. The great need for a portable field unit incorporating both the short wave and the long wave U. V. resulted in the twin field carrying case which houses both the SL2537 and the SL3660. There are stronger long wave 'special' lamps for the mineral studio, but the portable SL3660 long wave lamp is extremely efficient in the field . . . and light weight. There are few Christmas presents comparable to either or both of these lamps. If the collector is active in the field, then he should have a portable outfit. The M. S. G. will discuss other light sources in the future. Good dealers, whose ads appear in these pages, carry all kinds of lamps to fit the pocketbook and to fit special purposes.

Mr. W. A. Brown, owner of the Thunder Bird Hobby Shop, La Junta, Colorado, has invented a very neat method for identifying rock-hounds, geologists, earth scientists, collectors and what are you when among strangers. Many times, the M.S.G. has wished that he could have been easily identified as a mineralogist when in places crowded with people. One cannot go up to a stranger and say, "I am a rock collector. Are you interested in minerals?" 144,288 answers would be negative, but with Mr. Brown's pin or tie clasp, an extremely well designed silver hammer with a small name plate for one's initials, seems to be the answer. We hope that Mineral Societies throughout the land will investigate Mr. Brown's attractive emblem and accept it as an accessory in addition to what the well dressed mineralogist should wear. The Colorado Mineral Society was the first

(Continued on page 629)



## THE SAND COLLECTOR

Conducted by PETER ZODAC, Peekskill, N. Y.

Due to the keen interest in sand, as evidenced by many of our readers, we believe a column devoted to this subject is in order. This column will be run regularly, if readers will support it with notes.

### **Muscovite Sand from Maryland**

Near Silver Springs, Montgomery Co., Md., along New Hampshire Avenue, is an occurrence of muscovite-bearing sand. The sand is brownish in color, consisting chiefly of quartz with flakes of white muscovite scattered through it. Not long ago Mr. E. H. Searles, 2026 Elm Avenue, Norwood 12, Ohio, while on a visit to Silver Springs, spotted the occurrence and collected some of the sand; the occurrence is just north of the intersection of New Hampshire Avenue and University Lane.

### **Amethyst Sand from Mt. Ivy, N. Y.**

In the little hamlet of Mt. Ivy, Rockland Co., N. Y., is a large sand bank operated by the Mt. Ivy Sand and Gravel Co. A brief stop was made at the locality by the conductor of this column on Sunday, July 23, 1950, for the purpose of collecting some of the sand. This is a dark gray sand consisting chiefly of colorless, reddish and milky quartz but it also contains a little amethyst (purple quartz), rose quartz (pale to deep pink), magnetite (black), muscovite (white), etc. The locality is on U.S. 202, about 2½ miles west of Haverstraw; it is the only sand bank between Haverstraw and Suffern.

### **Singing Sands from Manchester, Mass.**

The following letter, dated September 17, 1950, comes from Miss Patricia Ann Berry, 19 Stocker Avenue, East Lynn, Mass.

"I was much pleased to receive your note with my membership card. You mentioned the Singing Sands in Manchester, Mass., which is a short distance from my home in Lynn. I had heard of the beach but never visited it. (One never thinks

that anything can possibly be interesting close to home). Since you mentioned you would like some of the sand I was quite flattered to think that I might have the pleasure of sending you a sample.

"The first of this week we decided to make a day at the beaches so we rode to Ipswich and walked the length of Crane's beach, one of the finest along the north shore of Massachusetts. Because of the hurricane we hoped to pick up some sand dollars (a variety of sea urchin) which can often be found along one stretch of it. We were overwhelmed by our success in collecting 145 large "dollars" and several hundred small ones.

"From Ipswich we headed to Manchester and the Singing Sands which is on the way home to Lynn. To reach the beach, we took the one-way road that goes by some of the larger summer estates. The beach itself is quite tiny with high red rock cliffs to the left. It is very exclusive and only the inhabitants may use it, which is only reasonable because if the beach was open to the general public, there would not be room for Manchesterites.

"When we shuffled over the brownish sand there was a definite sound which was quite unusual, but sounded perhaps like "quork" with each step. Compton's encyclopedia says "Sand on the beach near Manchester, Mass., gives a crackling sound when walked upon. The cause of these sounds has been much discussed. One explanation is that the grains of the sand in question are all of the same size and shape. When slightly damp so that an elastic film of moisture surrounds each grain, the sand is easily set into uniform vibration." We collected a couple of bottles of the sand and I am sending you one of them."

The sand is gray in color and consists chiefly of quartz of various colors and shades—colorless, brownish, whitish, yellowish, etc.

## CLUB AND SOCIETY NOTES

**Attention Secretaries**—If you want your reports to appear in the March-April issue, they must reach us by February 15th.—the Editor.

### Mineral and Gem Society of Castro Valley

At the last regular monthly membership meeting of the Mineral and Gem Society of Castro Valley which was held Friday, August 11 in the Faculty Dining Room of the Hayward Union High School, Hayward, Calif., Mrs. Gladys Luce gave a report on her recent trip to Trona, Calif., where she represented the Society as a delegate to the Annual Convention of the California Federation of Mineralogical Societies. As the Federation selected Oakland for their next year's convention, members of the Castro Valley Society will be in a position to enter an exhibit for that occasion. Mrs. Luce's report was followed by a discussion of Uranium and other Radio-active minerals by Dr. Arthur B. Emmes, which included a Geiger-counter demonstration on specimens submitted by members of the Society. Instrument was loaned through the courtesy of Anthony Pereira of Hayward.

An announcement was made of plans for the Society's participation in a television show on the "Bizarre Bazaar" program of Radio Station KRON, San Francisco, which has been tentatively set for Tuesday, August 22 at 8 p.m., and final arrangements were also made for the Society's next field trip to Golden Gate Park, San Francisco, Sunday, August 13, where they will view the remarkable mineral collection of William Pitts in the Academy of Sciences and the famous Hapsburg Art Collection at the De Young Museum.

Door prizes in the form of mineral specimens were won by Mr. and Mrs. E. R. Vinson, Al Breeden, Lois Breese, Mrs. May Meyers and Mrs. J. W. Decon.

### September Meeting

At the last regular monthly membership meeting of the Society which was held on Friday evening, September 8 in the Faculty Dining Room of the Hayward Union High School, Frank Wilcox of Oakland demonstrated the cutting and polishing of opals. Each person present was provided with an opportunity to process a specimen himself which involved the following steps:

1. Coarse grind—to shape the specimen
2. Medium grit
3. Fine grit
4. Final polishing with piece of leather

Preceding the demonstration Dean Phillips reported on the appearance August 22 of himself and President Al Breeden on the KRON "Bizarre Bazaar" television program on behalf of the Society. President Breeden appointed him chairman of the refreshment committee to secure two persons for each meeting to take care of the refreshments, and Don

Wills was appointed Librarian to take the place of Mrs. B. E. Sledge, who resigned.

Mrs. Gladys Luce displayed some specimens of minute quartz crystals in the form of clusters which she found in Nevada on her recent trip over the Labor Day holiday. Prize drawings were won by David Coats, Dean Phillips and Glen P. Beach.

### October Meeting

The last regular monthly membership meeting of the Society was held Friday evening, October 13, in the Faculty Dining Room of the Hayward Union High School.

Following brief remarks by Dean Phillips on some of his exceptional crystal specimens, David Grigsby, a local mineral dealer, gave a lecture on the elementary principles of Crystallography (the study of crystals) in which he discussed the topics of symmetry, crystal axes and the six basic crystal systems. He recommended the book "Getting Acquainted with Minerals" by English as the best elementary text on the subject and printed outlines of his discussion were available for those in attendance.

Prize awards in the form of mineral specimens donated by James Harvey and Mrs. Gladys Luce were won by the following persons: Mrs. Sarah Breece, J. W. DeCou, C. M. Dexter, Ted Saling, Mrs. Elizabeth Tharun, Tommy Lee Dambak and James Harvey. The following membership applications were received: Robert McBride, of Oakland, Mr. and Mrs. J. W. DeCou of San Leandro and Peter J. Morra and Douglas Morra of Castro Valley.

Director Tom Robb reported on the Silver-smithing and Jewelry Making Class now being held by H. Monsen in the Industrial Art Department of the Hayward Union High School and urged more persons to attend. Weekly sessions are held Monday evenings from 7 to 10 P.M. and are open to anyone regardless of skill or experience.

The speaker for the Society's next meeting on November 10 will be Vice-President Ward Lewis who will discuss the cutting of spheres.

Word has been received of inclusion of material covering the excavations of Wesley Gordon, one of the Society's members, and his Boy Paleontologists at Irvington in the forthcoming publication by Dr. George Lauderback of the University of California on "The Geology of the Bay Area" for the Bureau of Mines. This will include a photograph of the Irving Fossil formations which have been uncovered by Mr. Gordon's group.

Arthur B. Emmes, Pub. Chm.  
7845 Castro Valley Blvd.  
Castro Valley, Calif.

### Yavapai Gem and Mineral Society

The new officers of the Yavapai Gem and Mineral Society took charge at the monthly meeting held Tuesday evening, September 5, in the parish house of St. Luke's church, Prescott, Roy Kuntz, president, presiding. A talk, illustrated with his own lantern slides, was given by Dr. C. A. Anderson, of the U. S. Geological Survey, who described a geological and oceanographical expedition in the Gulf of California in which he had participated.

Members were considerably interested in the concretions which he had just found in the Prescott area and brought along with him. He described concretions as geological novelties found in sandstone and shale. They consist of a rounded mass of mineral matter formed on concentric layers about a nucleus. Geologists, he said, do not know exactly how they are formed, and they look very much like fossils. He exhibited on specimen, which he humorously described as "a fossil teardrop from a weeping willow tree."

Dr. Anderson described the Gulf Islands which he visited, islands characterized by desert conditions and interesting geological features. He spoke interestingly of Loreto, the village started by Father Kino, the padre who figures so prominently in Arizona history as missionary, builder, bearer of civilization to the Indians. A lantern slide depicted the ruins of the Loreto mission.

The speaker enjoyed his visit to Guaymas, Mexican seaport in the state of Sonora, now reachable by good road from Nogales. While he admitted that rockhounds should keep their minds on rocks, he hoped that no one visiting Guaymas would overlook the wonderful sea food—especially the shrimps and oysters.

Secretary-treasurer Jeanne Stolte reported a balance in hand of \$63.28. She read a letter from the Rocky Mountain Federation of Mineral Societies inquiring whether June would be a good time for next year's convention in Phoenix. The Society agreed and named Friday, Saturday and Sunday as the most suitable days of the week for the purpose.

Members who happen to be around Lake Mead October 7 and 8 are invited to join a Las Vegas rockhound group in a field trip. Further information is available from Miss Stolte.

Martin Hoffman was received into the junior membership of the society.

Harold Butcher was reappointed librarian. At the next meeting, Tuesday, October 3, a copy of the recently published book, "The Nininger Collection of Meteorites: a Record of 27 Years in Meteorites," by Dr. H. H. and Addie D. Nininger, of the American Meteorite Museum, near Winslow, Arizona, will be available, in addition to numerous other volumes of interest to rockhounds. The book gives a history of the collection's growth; field

notes on important discoveries; descriptions of 587 falls and finds; and 226 photographs and maps.

The senior door prize was won by Mrs. O. D. Horton; the junior by Gary Purviance. Three tied for the senior quiz—Mrs. E. Neuman, Mrs. H. G. Porter and Harold Butcher—and, on the draw, the prize went to Mrs. Porter. Martin Hoffman won the junior quiz.

It was announced that the next field trip, starting from outside the Studio Theatre, at 9 a.m. will be held Sunday, September 24, led by H. G. Porter.

Harold Butcher  
331 Park Ave.  
Prescott, Arizona

### Pomona Valley Mineral Club

At Brandon, England, flint mining is being carried on today using very nearly identical methods with those used by Stone-Age men during the paleolithic period. Recent discoveries of the tools used by the primitive men that have been found in sealed up burrows in the oldest parts of the flint mines bear out this fact according to Jerry Laudermilk who talked at the September meeting of the Pomona Valley Mineral Club.

Mr. Laudermilk brought many of his stone-age weapons and tools to the lecture and proceeded to give a demonstration of how they were made. He also traced back to the ancient celtic source words, some of the terms used by miners today for their tools.

As part of his talk he told the story of Ishi, the last stone-age Indian in California who was found in 1908 living in the northern part of the state. Ishi's vocabulary and habits were studied by professors at the University of California where it was determined that Ishi was actually the last living remnant of a primitive Indian tribe. Ishi died of tuberculosis after four years contact with white men.

The Pomona Valley Mineral Club this year sponsored the first exhibit of gem and mineral materials ever to be displayed at the Los Angeles County Fair. This fair, the largest country fair in the world, attracts over a million visitors every year and many of the visitors this year expressed their pleasure at being able to see such an extensive and well prepared display of this type of material.

One of the outstanding events preceeding the opening of the fair was the telecast over station KTLA of an interview with Past President Bill Weist who showed many fine specimens that people could see if they came to the exhibit at the fair. The response to this one television program has been immediate and gratifying and it undoubtedly drew many people to the gem exhibit who might otherwise have missed this treat.

Alice Cohoon, Pub. Chm.  
246 W. Aliso Street

### Pacific Mineral Society

The August meeting was especially interesting. Mr. Edward A. Arthur, Mineral Commissioner for the Los Angeles Chamber of Commerce, gave us a well illustrated report of his recent survey of the Mining activities in Nevada.

Mr. Arthur is chiefly interested in the business end of Mining. His organization is naturally concerned with the production of zinc, copper, lead, silica sand for glass, and iron. The zinc mines at Pioche are especially promising now, according to Herbert Hoover. At each meeting Dr. Foster, our display chairman, invites members to show some of their collections, and often exhibits from his splendid collection of minerals.

Our group was represented by three of the members at the National Convention at Milwaukee, Wisc. Mrs. Craig gave us a fine report. Our field trip chairman, Mr. Wilson, has plans for several trips to worth while mineral locations. The one to Goodsprings, Nevada is always rewarding.

We are all grateful to this wonderful group of officers, who give so generously of their time and talents.

### September Meeting

At the September meeting our President, Mr. Jones, was unable to attend. Mr. Glenn, our Vice President and Program Chairman, presented Mr. Kenneth F. MacKenzie, F.G.A., who proved to be an entertaining speaker as well as an authority on the subject of gems. Mr. MacKenzie is a Fellow of the Gemological Society of Great Britain.

The speech was well illustrated with a group of beautiful gems, including diamond bracelets. One contained thirty-six carats of perfectly matched stones. We saw various stones under high powered instruments.

Mr. MacKenzie explained that fashion and custom, as well as rarity, color, beauty and durability determine the value of gems. The inclusions are an important factor, in fact the makers of synthetic gems cleverly include them. We were able to examine a synthetic emerald under the microscope.

The placement of the rutile in the star sapphire, preferably at the outer edge, is important. The ideal proportioning due to cutting is responsible for the brilliancy of this and other stones.

At the close of the meeting the speaker kindly evaluated any stones which the members cared to submit. Many took advantage of this courtesy.

Dr. Foster, our Display Chairman, generously brought us his unusually fine collection of native copper from the Michigan area. An amazing number of forms comprise this group including the wire, the fibre, the plate, elongated crystals, scaled, granular, fibrous and a surprisingly accurate imitation of a nail.

We appreciate Dr. Foster's generosity in sharing his outstanding collections with us.

Mrs. Jones, our Librarian, reports 60 volumes at present, as well as the files of **ROCKS AND MINERALS**, **MINERAL NOTES AND NEWS**, and other publications. The members are welcome to use any of these.

Mr. Louis Goss and Mrs. Goss have again extended an invitation to their home. Mrs. Goss has done some splendid work in cutting and polishing. Mr. Goss has many mementoes of our field trips in his oil paintings. It is wonderful to bring home desert colors, sky and clouds, as well as rocks and minerals.

Our Field Chairman, Mr. Wilson, has planned a trip to Lake Mead Recreational Area for October.

Bertha Royer  
1234 W. 41st Street  
Los Angeles 37, N. Y.

### Gem and Mineral Society of San Mateo Co.

The Gem and Mineral Society of San Mateo County recently enjoyed a visit from Mr. Frank Stevenson, Asst. Pacific Coast Manager of the Vermont Marble Company, who presented their beautiful and interesting sound and color film, "Cavalcade of Marble." Mr. Stevenson donated for the Society's permanent collection an unusual plaque of French rouge antique marble with fossil inclusions, and several other fine specimens of marble.

On October first, the Society will hold its annual "Swap 1 feet" and picnic at Flood Park, and will play host to the other northern California societies.

Alice Sharp, Cor. Sec.  
P. O. Box 226  
Burlingame, Calif.

### Independence Gem and Mineral Society

The Independence Gem and Mineral Society held its first annual display October 21 and 22 at the Gillmor Motor Co., in Independence, Missouri. Our display categories included lapidary work, polished gems, gold panning, a geiger counter, maps from the Missouri State Geological Survey at Rolla, Missouri, novelties and oddities in rocks, fluorescent rocks, man's use of rocks, crystals, petrified woods, silver-smithing, a collection of books pertaining to geology, and minerals, respectively. The attendance numbered 1200, which is quite a number for a town this size. All specimens were donated by club members and were of the highest quality obtainable. This is to be a yearly project and we presume the displays in the future years will be as successful as the previous.

Alberta Noble, Pub. Chm.  
826 N. Noland  
Independence, Mo.

### Queens Mineral Society

The meeting on September 7, 1950, was the occasion of the club members' annual exhibit of minerals collected throughout the year.

Messrs. Koerber, Fredericks and Segeler visited Bancroft, Canada, and from this area, exhibited the Uranium and rare earth minerals, Uraninite, Ellsworthite, Lyndochite and Cytrolite. Beautiful specimens of Apatite, Sodalite, Cancrinite, Wernerite, Asbestos (variety Chrysotile), and doubly terminated twin crystals of Magnetite, one of six-inch diameter, were displayed. The new mineral, Rockbridgrite, was found at North Groton, New Hampshire, and the rare Niobate Polycrase, at Day, New York.

Mr. Pribil visited Newry, Maine and showed some interesting specimens of altered Tourmalines in Feldspar. He also reported finding good cutting material of Citrine Quartz.

From his trip to Tampa, Florida, Mr. McKown brought lovely Aragonite crystal groups, which fluoresce pale blue under the short wave.

Mr. Perratore was fortunate to be in the Bear Mountain, New York area after a construction blasting and exhibited Graphite and altered Zircons.

Mr. Segeler was awarded first prize; Mr. Koerber, second; and Mr. Fredericks, third. All members felt greatly enriched as a result of the endeavors of the exhibitors.

Georgia Lemon, Sec.  
49 W. 11th Street  
New York, N. Y.

### Contra Costa Mineral and Gem Society

The newly formed Contra Costa Mineral and Gem Society held its initial meeting August 25, 1950, at the home of A. E. Davies in Alamo, Calif.

The 23 persons who attended the meeting asked Davies to serve as temporary chairman and Mrs. Davies as secretary-treasurer of the organization.

Other directors selected were Ferris Pfaffenberger of Antioch, H. E. Ross of Walnut Creek and Ruth Plaga of Concord. No specified number of directors was decided upon. The directors will compile the constitution and by-laws.

The group will be affiliated with the California Federation of Mineralogy Societies, Inc., and will hold its meetings this month in the Alamo School.

Frank Boone and William Wight volunteered to design and prepare membership cards for the organization. G. H. Boone was asked to serve as chairman of a committee to compile a club library, while Mrs. Plaga and Wight were asked to prepare the program for the next meeting, September 15.

Pfaffenberger will be chairman of the club sale and auction, and will be assisted by Wight and Major Shakespeare. Davies for the present will act as publicist, with Frank Boone asked to serve as chairman of the publicity committee after that time.

Regular meetings will be held on the 2nd Friday of each month and will be held in the Meeting room of the Coast County Gas Company in Walnut Creek, Calif. Visitors are always welcome.

### Georgia Mineral Society Field Trip

Members of the Georgia Mineral Society had three "field days" in the Franklin, North Carolina, area August 18, 19, and 20 as guests of the Southern Appalachian Mineral Society on a rock-collecting jaunt.

Carter Hudgins, of Marion, N. C., and President of the Appalachian Society, organized the collecting trip. Major Higdon and Andy Reed, of Franklin, acted as guides. The North Carolina mineral group was joined by guests from both Georgia and Tennessee.

Capt. Garland Peyton, director of the Georgia Department of Mines, Mining and Geology, and Dr. A. S. Furcron, assistant Georgia geologist, led the peach-state group.

The Franklin and Macon County collecting sites visited over the August week-end were Corundum Hill, Mincey Mine, Cowee Creek, Mason Mountain, and Buck Creek. Members of both societies found interesting specimens of corundum, vermiculite, rhodolite garnet, kyanite, chlorite, and apatite. Two members of the Georgia group found minute rubies at the Cowee Creek site.

The mineral collectors were guests of Andy Reed, Friday evening, to see his large exhibit of North Carolina minerals and Indian artifacts. His corundum exhibit was judged particularly complete.

The Georgia Mineral Society, which is composed of over 100 active members thoroughly enjoy yearly collecting trips to North Carolina. Last year, they visited Spruce Pine and collected minerals in the Little Switzerland area.

### Annual Meeting

Dr. H. W. Straley, professor of geology at Georgia Tech., was installed as president of the Georgia Mineral Society, October 9. The installation of officers took place at the sixteenth annual meeting and banquet at Georgia Tech., Atlanta, Ga. Mineral specimens from the Smithsonian Institute, gifts to the Georgia Society, were used as table decorations.

Other officers installed at the annual meeting were Charles C. Ostrander, vice president; J. R. Chapman, recording secretary; Erna L. Mason, corresponding secretary; S. P. Cronheim, treasurer; Dr. Frank A. Daniel, historian; and Dr. Lane Mitchell, museum curator.

Stereoscopic slides of Georgia caves, in color, made by Charles Wilkins, were shown after dinner.

Erna L. Mason  
State Health Dept., Atlanta, Ga.



### Cincinnati Mineral Society

The regular meeting of the Cincinnati Mineral Society was held Wednesday, July 26, 1950, at 8:00 P. M. at the Cincinnati Museum of Natural History. The meeting was presided over by our president, Mr. James Clements. Our membership chairman, Mr. James Gibbs, introduced Mr. Dudley A. Levick, Mr. Carl Wiegand, and Mr. and Mrs. Russell P. Soverign as new members. We welcome these folks and hope their association with us is a long and pleasant one.

Mr. Edgar Sarles, chairman of the field trip committee, announced a field trip for the weekend of August 19-20. This trip, an overnight affair, features collecting at the Blue Grass Stone Quarry near Georgetown, Kentucky, for Saturday afternoon, Sunday, all day collecting at the Fluorite mines at Mundy's Landing, Kentucky.

Mr. Ralph Clark, our member speaker for the evening, was introduced by Grover Hubbing, program chairman. The subject of Mr. Clark's talk was "Copper and associated ores as relates to the Keweenaw Peninsula, Michigan." Mr. Clark collected extensively in this region and correlated his findings with a study of the occurrence and as a result is well qualified to cover the subject.

The text of his remarks in brief are as follows: "Copper derives its name from the latin word "Cyprum," the name for Cypress, the island on which the copper used by the Greeks and Romans was found. Next to gold and silver it is the most ductile and malleable of metals. It is more elastic than any other metal except steel; and as a conductor of heat and electricity it ranks next to silver.

Native copper, which forms the bulk of the Keweenaw occurrence, is really a minor ore of copper, as the copper sulphides are today the principal ores of copper.

The Keweenaw occurrence is the most notable deposit of native copper in the world. The region is occupied by a series of igneous flows of trap-rock inter-bedded with conglomerates. The whole series dips toward the north.

The copper is found in veins intersecting this rock series, in the amygdaloidal belts, at the top of the various trap flows, and as a cementing material in the conglomerate. This last type has furnished the most important ore deposits, some of which have been worked for considerably over a mile in depth. Not only does the copper act as a cement to bind the conglomerate, but it has often penetrated the boulders of the rock to the depth of a foot or more. It is associated with such minerals as, epidote, datolite, calcite and various zeolites.

The mines were worked superficially by the Indians and have been actively developed since the middle of the nineteenth century. Most of the copper of the district occurs in very small irregular specks, but notable large masses have been found, one weighing 420

tons was discovered in 1857."

At the close of the talk, Mr. Clark, presented for distribution among the members many very fine specimens of native copper and ore samples. Mr. Clark did a fine job of organizing and presenting his talk. With a short question and discussion period the meeting was adjourned.

### August Meeting

The regular August meeting of the Cincinnati Mineral Society was held September 6, 1950, to meet the schedule of our speaker. The meeting was opened by our president, James Clements. Mr. Clements congratulated Ralph Dury, curator of the museum, on his excellent renovation and new exhibits now on display in the museum.

We also welcomed "The Dry Dredgers," an association of amateur geologists, to our meeting this evening as guests. This group and their friends added up to some 45 guests. Mr. Clements introduced Mr. Edgar Sarles, who arranged this meeting. Mr. Sarles then introduced our speaker for the evening, Mr. K. J. Murata, chief of spectrographic unit—Geochemistry and Petrology Division of U. S. Geological Survey.

Mr. Murata spoke on "Causes of Fluorescence in Minerals." His concise presentation of this topic was illustrated with slides of diagrams and spectrographs of various minerals. The many commercial ultra-violet lamps were discussed concerning their effectiveness as a source of ultra-violet energy necessary to induce fluorescence in minerals.

Some minerals contain as a part of their composition and atom's structure certain minute compounds present as impurities. These establish themselves in the molecular structure of the mineral and are known as "fluorescence centers." These minute compounds inherently become energized in the presence of ultra-violet, and when light of the visible spectrum is not present, release their energy as visible light. Certain minerals such as scheelite always contain as a part of their composition these compounds which form "fluorescence centers" and consequently are always fluorescent. The energy dispersed by the ultra-violet source impinges upon these centers causing them to increase in activity in the molecular pattern and in using the energy give it off as visible light. As the energy is lost from a given center it returns to its original position and is then re-activated. So long as the source of energy is present, the visible light or fluorescence persists. When the source is removed most minerals cease to fluoresce, others continue to glow for a short period of time. This glow or phosphorescence is produced by numbers of the energized fluorescence centers becoming trapped at the outer boundary of their energized cycle and being unable to expend their energy by returning to their place of origin in the molecular structure.

Removal of the source of energy leaves



these centers trapped and existing energy is used up while trapped and then visible light ceases.

Mr. Murata discussed present commercial applications and uses in geologic work. His talk was concluded by a short question period and followed by much applause and expressions of pleasure for the splendid job done by Mr. Murata.

### September Meeting

The regular meeting of the Cincinnati Mineral Society was held September 27, 1950, 8:00 P.M., at the Cincinnati Museum of Natural History.

Mr. James Clements, president, welcomed as guests, Mr. Harry Wilke of Dayton, Ohio, and Mrs. Scott with her son, Billy, and daughter, Mary, of Cincinnati, Ohio. Mr. Wilke, a fellow rockhound, made the trip from Dayton to be with us. He heard of our group thru our meeting notes in *ROCKS AND MINERALS*.

Mr. Edgar Sarles, our fountain of information on mineralogy and geology and the man who is largely responsible for all local enthusiasm in these fields, was introduced as our speaker by Grover Hubing, program chairman. Mr. Sarles' discussion was centered basically around the structure and crystalline properties of some 38 minerals. The talk was in the nature of a review of the basic physical characteristics of relatively common minerals aimed at enriching the background of our newer members. Typical specimens were passed among members for study with the discussion.

Considerable thought provoking information was presented and everyone gained in knowledge concerning the minerals discussed. Mr. Sarles received a well earned ovation for his excellent talk.

Mr. Grover Hubing carried on the theme of physical characteristics with an excellent discussion and demonstration based on color of minerals.

Advising us that color of a mass of mineral is deceiving, Mr. Hubing proceeded to show that it is the color of the finely divided mineral that is the true color index of a mineral. Using a dark hematite specimen, it was crushed and rubbed out on white paper to show the characteristic reddish-brown color. The powdered hematite was then heated to drive off the water and the residue was rubbed out to show that a physical change had occurred and had produced limonite as shown by the brown-yellow streak of limonite.

Mr. Hubing thus by very simple methods and terms brought home some of the physical characteristics of minerals. The meeting was brought to a close with a discussion period.

Charles S. Gschwind, Sec.  
6931 Diana Drive  
Cincinnati 24, Ohio

October 8, 1950

### Clark County Gem Collectors

The Clark County Gem Collectors' giant field trip was well attended. The persons in charge were the grateful recipients of many compliments from their guests.

The major field trip was to the virgin field of flower agate. A caravan of 320 cars carried 870 people into the location of this cutting material at the hour on which the field was thrown open by the Club. Subsequently the flower agate was discovered to be fluorescent, a sulphur yellow color combined with shades of purple.

As a secondary field trip on October eighth, a party of 142 cars carrying 391 persons visited the Park Onyx Field, which was publicized and mapped in *DESERT MAGAZINE* several years ago.

The total registration for the field trip was 1,030 persons. However, the Park Rangers in charge of registering, reported that many campers did not register, and therefore the Hoover Dam Recreation Area of the Department of Interior are officially reporting an attendance of 1,200.

Paul O. Drury Pub. Chm.

P. O. Box 1028

Las Vegas, Nev.

(Editor's Note—See "Giant Field Trip in Nevada" *R & M*, Sept.-Oct., 1950, p. 464).

### Tucson Gem & Mineral Society

At the September 5 meeting members told of their summer field trips and displayed specimens acquired. On September 19 iron minerals were discussed and shown by the members of the society. About fifty were present to enjoy three excellent movies "Alaska Resources," "Manufacturing of Tin Plate," and "Animals of the Sea," presented by the Arizona State Museum and the University of Arizona. On October 3 many beautiful and interesting specimens of lead and zeolite minerals were shown and discussed by the members.

Meetings are held on the first and third Tuesdays of each month in Room 106 of the Arizona State Museum on the University of Arizona campus, Tucson, Ariz.

David P. Record, Pub. Chm.

4400 Mission Road

Tucson, Arizona

### Brawley Gem and Mineral Society

The Brawley Gem and Mineral Society will hold its first Gem and Mineral exhibit on December 2 and 3 in the Science Hall of the Brawley Union High School, Brawley, Calif.

Brawley is in the heart of the semi-precious stone area and all visitors are cordially invited to see this exhibit.

Faye L. Williams

News Editor

Brawley, Calif.

### Chicago Rocks and Minerals Society

Since the beginning of the year there has never been a dull moment for the members of the Chicago Rocks and Minerals Society. The outstanding field trip of the spring season was when, our members as guests of the Joliet Mineralogist Society on April 16th, enjoyed a most pleasant and profitable day under the directorship and instruction of Drs. Ben Hur Wilson and Frank L. Fleener.

Old Sol, as if in courtesy to the two grand old timers, provided the sunniest day of the year for the occasion. Under the direction of such capable and entertaining directors much was learned of the geological formations, topography and glacial history of the Joliet quadrangle.

The first trip of the day was down into one of the canyon-sized limestone quarries that abound in the Joliet region. The second trip, in the afternoon, was to a great gravel pit where everyone vied with everyone else to discover the best find of the day. Fortune favored most everyone and many rockhound treasures, such as chert geodes with quartz crystals, marcasite, Ordovician trilobites, cephalopods, petrified sponge, coral, agate and jasper became the proud possessions of the eager seekers.

One might call this a spring parade as the society members reminisce upon their honored guest list of the past season.

At the March meeting of the society, Dr. Fleener lectured on the "Quartz Family Minerals" of which he is well acquainted. Through the years he has liberally devoted much of his time lecturing before many rockhound groups in the mid west. As a pioneer Rockhound, his enthusiasm and generosity is unmatched and the midwest owe him a debt of gratitude.

In April, the attention of both amateur and professional geologists of the membership were clearly informed as to the reasons for the shrinking water supply in our highly populated regions. Professor A. L. Howland of Northwestern University was the guest speaker and his subject "The Water Tables, Past and Present" proved to be most interesting. Professor Howland, a believer in visual education, used a large topographical map which charted in color both continental elevations and the average area and regional rainfall throughout the United States. A world-wide comparison was made and a vivid historically instructive picture was brought to the fore—a picture that clearly portrayed that man should not pollute available surface water nor abuse the sub-surface reservoir waters that natural processes store. We are slow to learn that man cannot use water faster than nature will provide it. Everyone enjoyed Professor Howland, our earnest educator.

The May meeting, a celebrated one, was in the form of open house to be indulged with members from visiting societies. Many officers and members of neighboring societies were in attendance. The Wisconsin Geological Society, The Marquette Mineralogical Association, the Chicago Lapidary Society, The Joliet Mineralogist Society and the newly formed Earth Science Club of Northern Illinois.

Honorary memberships were extended to both Dr. Ben Hur Wilson and Dr. Frank L. Fleener. Mr. James O. Montague of the Wisconsin Geological Society was complimented on his recent appointment to an Honorary Curatorship at the Milwaukee Public Museum.

Suffice it to say, the meeting was crowded with beaming faces.

Edwin Goff Cooke entertained the open house guests with one of his rare Kodachrome Slides Sagas on the Archeology and Pre-History of the Southwest Ruins and the people that inhabited them. In his lecture he brought out a new anthropological angle on the Redman (*Americanus Neanthropus*). No one ever knows where Cooke will strike out next nor what his new perception will be. Perhaps that is why his programs continue to grow in popularity. His is always a job well done.

The June meeting, the last meeting of the year, the members were entertained by Dr. J. Daniel Willems, author of "The Art of Gem Cutting," with an illustrated lecture on the subject of his book. His colorful slides and humorous talk was enjoyed by all. Society members from all over the United States experienced the pleasure of viewing his recently produced color motion picture "The History of Gems" which was shown at the joint convention of the American Federation and Midwest Federation of Mineralogical and Geological Societies held in Milwaukee recently.

The annual election of officers took place at the close of the meeting and the following named officers were unanimously elected:

President—Herbert Grand-Girard; Vice-President—John W. Pagnucco; Recording Secretary—Helen L. Cooke; Corresponding Secretary—Dorothy Gleiser; Treasurer—Louis Holtz; Curator-Historian—George C. Anderson.

#### Editorial Staff

Editor—Oriol Grand-Girard; Assistant Editor—Alice Wollin.

As this is the last article as corresponding secretary, the writer wishes to express thanks for the kind cooperation of the editor and editorial staff for the publishing of the writer's contributions and wishes all the readers Happy Rock Hunting and Hasta La Vita.

Helen L. Cooke  
2952 N. Laverne Avenue  
Chicago 41, Ill.

### October Meeting

The speaker at the October 14th meeting of the Chicago Rocks and Minerals Society was Emil F. Kronquist, nationally known author and teacher of art metal work and jewelry making at the Milwaukee, Wisconsin, Vocational School. Mr. Kronquist gave a most helpful and interesting demonstration of the art of chasing silver during his talk.

For some time the Society has had a display table at each meeting. The membership is divided into alphabetical groups and take turns exhibiting their mineral specimens and lapidary work. The Society has just purchased special lights for illuminating the display table and this adds greatly to the attractiveness of the exhibits. These displays stimulate both the interest of the exhibitor and the members of the Society and their guests, and add a great deal to the meetings.

Mrs. Clell M. Brentlinger  
339 Kenilworth Ave.  
Kenilworth, Illinois

### East Bay Mineral Society

The slate of officers of the EAST BAY MINERAL SOCIETY for the 1950-1951 period is as follows:

Dr. David F. Houston, President  
Mr. Rex Hawkinson, Vice-President  
Miss Joan Morris, Secretary  
Mr. and Mrs. J. J. Mallon, Treasurers  
Mr. Clarence Cole, Director  
Mr. Frank Wilcox, Director  
Mr. Ernest Stone, Director  
Mr. George Higson, Permanent Historian

Mrs. Miriam Williams,

Corresponding Secretary

Miss Jo Owen, Librarian

The society, which meets the first and third Thursdays of the month at 8:00 P. M. at the Lincoln School, 11th and Jackson Streets in Oakland, Calif., has scheduled an ambitious year before it. In the last week of June of 1951 they will host the Annual Convention and Show of the California Federation of Mineralogical and Lapidary Societies. In the meanwhile, many meetings and field trips of interest are being planned, some of which will be reported in these columns from time to time.

During the month of September, the Society held its 11th Annual Birthday Picnic. The cake, decorated with blue and gold frosting, was generously donated by Mr. and Mrs. Richard Stromberg. Baseball, horseshoes and much 'swapping' of rocks were the predominant activities of the day.

At the October 5th meeting the Society was honored with a talk by Mr. Arthur Maudens who gave a full and comprehensive report on Opal. Mr. Maudens not only gave much good advice on the cutting of opal, he

also discussed the types and individual peculiarities of opal from various localities.

The Society is proud of the words of praise from Dr. Austin F. Rogers, Professor Emeritus of Mineralogy at Stanford University, on the library it maintains. Outstanding gem and mineral books are loaned out for a few cents fee, while periodicals and magazines are available free of charge. Dr. Rogers has often expressed his sentiments that this is an institution that could be profitably imitated by other societies.

Miriam Williams  
2006 Durant Avenue  
Berkeley 4, Calif.

### Lapidary and Gem Society of New York

On Sunday, September 17th, 1950, the LAPIDARY & GEM SOCIETY of NEW YORK, went on its maiden field trip to Touchon's Grove in the Watchung Mountains of New Jersey.

Seventy-five per cent of the membership made the trip and it was a highly enjoyable and profitable trip since everybody found minerals of gem quality, particularly Carnelian of very fine color.

A particularly large piece, weighing 1 lb. 6 ozs., was found by Mr. Perricone, and another member, Mr. Sharp, found some particularly fine pieces.

The day was a very good one weatherwise, too, and one of the members, Mrs. Nimitz, commemorated the occasion by bringing along her color motion picture camera and taking pictures of the activities, which are to be shown to the members at an early meeting.

S. Perricone, Sec.  
Regent Lapidary Co.  
511 E. 12th Street  
New York 19, N. Y.

### New Jersey Gem & Mineral Society Passaic, N. J.

New Jersey Gem and Mineral Society held its first meeting of the fall season on September 12.

Trips for the fall season have been planned. The first trip will be in October.

Guest speaker at the meeting was Mr. Gene Vitali. He brought along with him his collection of tourmalines, that he has lectured on.

October 3, was the next meeting. The discussion was on trips that have been made and their findings. Also have had the motion pictures on Oklahoma by Sinclair Refining Co., and Synthetic Rubber by Goodyear Tire and Rubber Co.

At the November meeting there will be a display of Fluorescent Minerals and Mineralights.

Joseph C. Hanzl, Secretary  
18 East 2nd Street  
Clifton, N. J.

### Los Angeles Lapidary Society

The Los Angeles Lapidary Society heard Dr. Richard H. Swift, noted Egyptologist talk on "Gem Cutting in Ancient Egypt" at their September meeting. Two cases of his beautiful gems and jewelry from Ancient Egypt were on display at this meeting. Dr. Swift has had a great deal of experience in this field and has lectured to many institutions. His collection of Egyptian jewelry is one of the largest and finest individual collections in the world. He is a member of the Southern California Academy of Science, the Adventurer's Club, Federation of Natural Sciences, British Association for the Advancement of Science, the Chicago Academy of Science, and has published many papers on Egyptology, Archeology etc. A very large crowd enjoyed Dr. Swift's lecture.

The Society's Annual Picnic will be held on October 14th and 15th in Apple Valley at the Bennett's Rancho. For several months the Los Angeles Lapidary Society has been meeting at the new Van Ness Playground, 2nd Avenue and Slauson, and President Norman Cupp extends the Society's invitation to all rockhounds to come and meet with us. We meet on the first Monday of the month.

On the Lapidary Association now in the process of being formed. Recently the Board of Directors of most of the Lapidary Societies in the Los Angeles area studied the proposed constitution and by-laws of "The Lapidary Association." By unanimous vote they, as individuals, not binding their respective societies, approved the proposed constitution and by-laws and referred the matter to the societies for action. The purposes of the Lapidary Association are generally to assist the individual societies in their activities; to disseminate information and to promote good fellowship and good will. The constitution and by-laws are so drawn that no society, whether large or small can assume control. The enthusiasm and good will which has been engendered during the organization of the Lapidary Association is clearly shown by what has taken place since that time.

The Los Angeles Lapidary Society unanimously ratified and approved the Association and the constitution and by-laws at its next regular meeting. The Gem Cutter Guild were second to ratify the Association's Constitution and By-Laws and at this writing seven societies had joined this new association.

All societies joining prior to February 1st, 1951, will be regarded as charter members. It is anticipated, however, that the new Association will be a functioning organization before the beginning of the New Year.

#### October Meeting

The Los Angeles Lapidary Society saw the motion picture "Ghost Towns" at their October meeting held at the Van Ness Playground Auditorium. Program Chairman, Ben S. Beery, secured this very fine pictorial film from the Signal Oil Company. It was a most fitting

program since California is celebrating its Centennial this year. The picture portrayed the history of the Mother Lode country.

All roads led to the RANCHO PIEDRAS in Apple Valley on October 13, 14 and 15, when the Los Angeles Lapidary Society and their friends held their annual picnic, in the lovely and appropriate setting of the famous Apple Valley. Ted Schroeder, picnic chairman and his hard working committee, did a grand job in providing fun and enjoyment for all. Field trips, contests, swimming; every picnic pleasure one could think of was provided. The costume party and big camp-fire Saturday night were two of the top events. Ted and Jean Bennett owners of RANCHO PIEDRAS and long known for their generous hospitality, were again the hosts of the society and the toast of the camp. This event will long be remembered.

Pearl Robertson, who is carrying on the grand job started by Howard McCornack, as head of the committee to continue the working lapidary exhibit in the State Building at Exposition Park, Los Angeles, California, says that the lapidary societies of Southern California are doing a fine job of providing rockhounds from the various lapidary societies to demonstrate cutting and polishing. Pearl would like to hear from any and all lapidary groups who can send delegates to work in the State Building Shop which is open every afternoon. The Society's name will appear on a banner stating who is operating the equipment that day. Please call Pearl Robertson on Richmond 9750, if your society can help.

The Los Angeles Lapidary Society extends to all visiting rockhounds a cordial invitation to attend their regular meeting held on the first Monday of each month at the new Van Ness Playground, corner of Slauson Avenue, and 2nd Avenue, Los Angeles, California.

Vic Gunderson  
Corresponding Secretary  
2152 W. 83rd Street,  
Los Angeles, Calif.

### Santa Cruz Mineral and Gem Society

During the summer months the programs are planned of a lighter character and included a pot-luck picnic gathering in July at lovely Trimble's Grove in Aptos which was enjoyed by many members. A field trip around the 4th of July to Willow Creek on San Simeon Highway to hunt for jadeite gave a number of members a chance for a camping out outing and several found worthwhile specimens to repay them for a long early morning hunt along the shore. One large lovely piece of over a cubic foot was the "loot" of the Hugh Bairds which made everyone envious or at least happy for the Bairds.

The August meeting was a social gathering with different members bringing exhibits of their treasures for display and discussion.

Albert Godfrey, who has probably the largest collection in this group, is not content with just displaying, cutting and polishing but in addition takes color photographs of his trays and cases and has a fine collection of slides which he showed to the gathering.

One of the members, Robert Campbell, had recently spent an evening talking with the boys in the nearby California Youth Authority camp in San Lorenzo Valley. He found much interest and is planning to let our members contribute equipment and material so that he may carry on a weekly session with the boys and encourage them to learn about rocks and minerals and how to use them as a hobby.

The September meeting will have asbestos as a subject and a movie made by the Johns Manville Company will be shown as part of the program.

Hitchcock  
1168 W. Cliff Drive  
Santa Cruz, Calif.

#### South Bay Lapidary Society

The South Bay Lapidary Society held its first Show on September 16th and 17th and a very fine show it was. Exhibits ran the gamut from mineral specimens to beautiful cabochons and artful jewelry. The displays were arranged in an attractive manner and representatives of other Societies who attended remarked that it was one of the most enjoyable shows they had ever visited. The Society was fortunate in receiving splendid co-operation from the authorities of Hermosa Beach and a number

of newspapers and magazines. All in all it was a real credit to Mrs. Jane Hagar, President of the Society, and all the members who performed a fine job.

At the meeting held Monday, October 2nd, the Society greatly enjoyed a visit from Mr. Albert Hake of Los Angeles, Calif., who showed micromounts and also some of the new color slides of plume agates and iris agate which are magnificent. We recommend that any Society that wants a real thrill should get Mr. Hake to put on his show for them.

Secretary  
117 23rd Street.  
Manhattan Beach, Calif.

## MINERAL SHOPPER'S GUIDE

(Continued from page 618)

**F** to see Mr. Brown's hammer pin and hammer tie clasp for ladies and gentlemen, and were unanimous in their approval. As the simply and neatly designed hammer emblem becomes better known, new friends will come your way and, to the M.S.G., this is more important than finding new specimens. Mr. Brown has given the "Silver Pick" a new significance. Dale Carnegie never thought of a better idea.

## EASTERN FEDERATION OF MINERALOGICAL AND LAPIDARY SOCIETIES ORGANIZED SEPT. 30, 1950

At long last the efforts, activities and much talk of certain members of the Society have borne fruit. We are glad to report that organization has been effected, bearing the name, Eastern Federation of Mineralogical and Lapidary Societies. On the last day of September your committee appointed at the last meeting, consisting of Messrs. Livingston, Benn and Chromy, a like committee from the Cutters Club consisting of Messrs. Mitchell, Woodruff and Morgan, and Messrs. Wallis, Geiser and Mihm, representing the Baltimore Guild, held a meeting with results as stated above. Officers for the first year are Woodruff (Cutters Club), President; Wallis (Baltimore Club), Vice President; Chromy (Mineralogical Society), Secretary, and Benn (Mineralogical Society), Treasurer. The balance of

the committee comprise the Board of Directors who conduct the business of the Federation.

This is only the beginning. Work will not cease until every mineral society in the east (comprising the territory east of the Ohio and Mississippi Rivers) has become a member. If you have friends in other societies, or contact other societies in your travels, a little missionary work is in order.

The entire U. S. is now covered by regional federations and we hope that in time we may become affiliated with the National Federation and have a part in their activities.—Mineral Minutes of the Mineralogical Society of the District of Columbia, October, 1950, p. 4 (Sec-Treas. Lancaster Lowry, 4400 31st St., Mt. Rainier, Md.).

# Rare - Unusual      Rare - Unusual

## SINGLE CRYSTALS

We are happy to offer a number of loose, single crystals this month, both for the specialist in crystal collections and for the average mineral collector. As widely different as their sources, these crystals represent the finest of their type in each case. All orders are F.O.B. Berkeley, California.

### **MANGANITE XLS**, Ilfeld, Harz Mts., Germany.

Brilliant, black, orthorhombic xls, all with single terminations. Choice items from a classic locality. Approximately 1" long, \$2.00 each; approximately 1 1/4" long, \$3.00 each. Four (4) superb, individual xls, varying in size, priced at \$4.00, \$5.00 and \$7.50 each.

### **DANBURITE XLS**, Toroku Mine, Miyazaki, Japan.

Greenish, semi-translucent to white, partially transparent, xls of a quality rarely seen. From the most noted locality for Danburite. Smallest xl, 1/4 x 3/4; largest xls, 3/4 x 2. Average size, 1/2 x 1 1/2. \$2.50, \$4.00, \$5.00, \$6.50, \$7.00, \$7.50, \$8.50, \$10.00, \$12.50 and \$15.00 each. Four (4) small, gemmy, transparent xls, all suitable for faceting, about 3 grams apiece, \$12.50 each. Two (2) superb, large, greenish translucent xls; 5/8 x 3, \$20.00; 5/8 x 3 1/2, \$25.00. Only one (1) extremely rare **doubly** terminated, translucent white xl, 1/2 x 2 1/4, \$25.00.

### **BETA QUARTZ XLS**, Soekaboemi, Preanger, Indonesia.

Loose, doubly terminated, pyramidal xls, with little or no prism faces. Beta quartz (a high temperature type of quartz) is rarely found in good xls such as these. Approximately 1/2", 25c and 35c.

### **GOLDEN TOPAZ XLS**, Rodriga Silva, Minas Gerais, Brazil.

Beautiful, golden, transparent to translucent xls (not suitable for faceting), all with single terminations. 1/2" to 1 1/2", 50c, \$1.00, \$1.50, \$2.00 and \$3.00.

### **GROSSULARITE GARNETS**, Lake Jaco, Mexico.

Large, dodecahedral xls, complete or nearly complete in all specimens. Colors range from various shades of gray to yellowish. 1", \$1.00; 1 1/4", \$1.50; 1 1/2", \$2.00; 1 3/4", \$2.50; 2", \$3.00. Two (2) only, pale pink, complete xls; 2 x 2 x 2, \$10.00; 2 x 2 1/4 x 2 3/4, \$10.00. Two (2) only, deep pink xls, nearly complete; 2 x 2 1/2, \$10.00; 2 x 2 1/2, \$15.00.

### **HEMATITE XLS**, Rio Marina, Island of Elba, Italy.

Brilliant, black xls with many faces. Again, a classic locality for hematite in large xls. Spectacular additions to any collection. An average size is 1 x 1 1/2. \$2.00, \$2.50 and \$3.00 each.

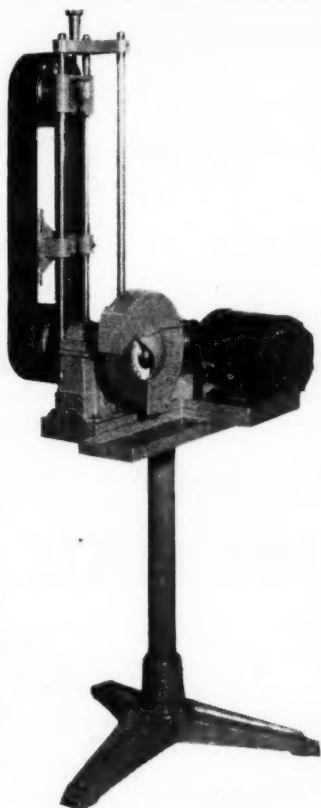
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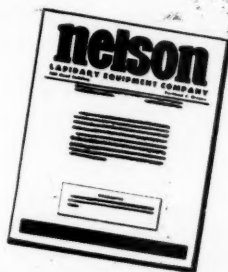
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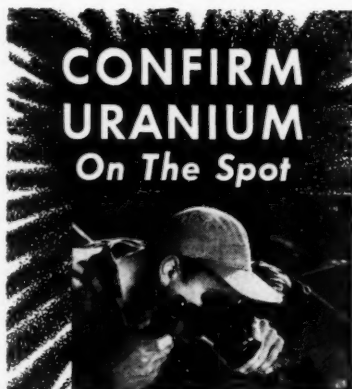
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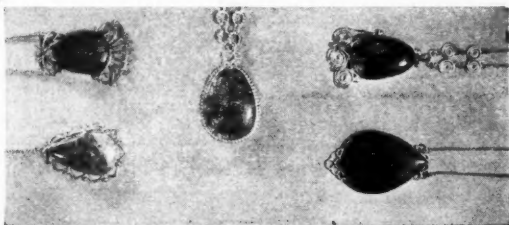
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Before me, a Notary Public in and for the state and county aforesaid, personally appeared **PETER ZODAC**, who having been duly sworn according to law, deposes and says that he is the **EDITOR and PUBLISHER of ROCKS and MINERALS** and the following is, to the best of his knowledge and belief, a true statement of the ownership, management of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, to wit:

1. That the name and address of the publisher, editor, managing editor, and business manager is **PETER ZODAC, PEEKSKILL, N. Y.**

2. That the owner is: **PETER ZODAC, PEEKSKILL, N. Y.**

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: **NONE.**

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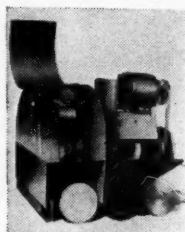
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